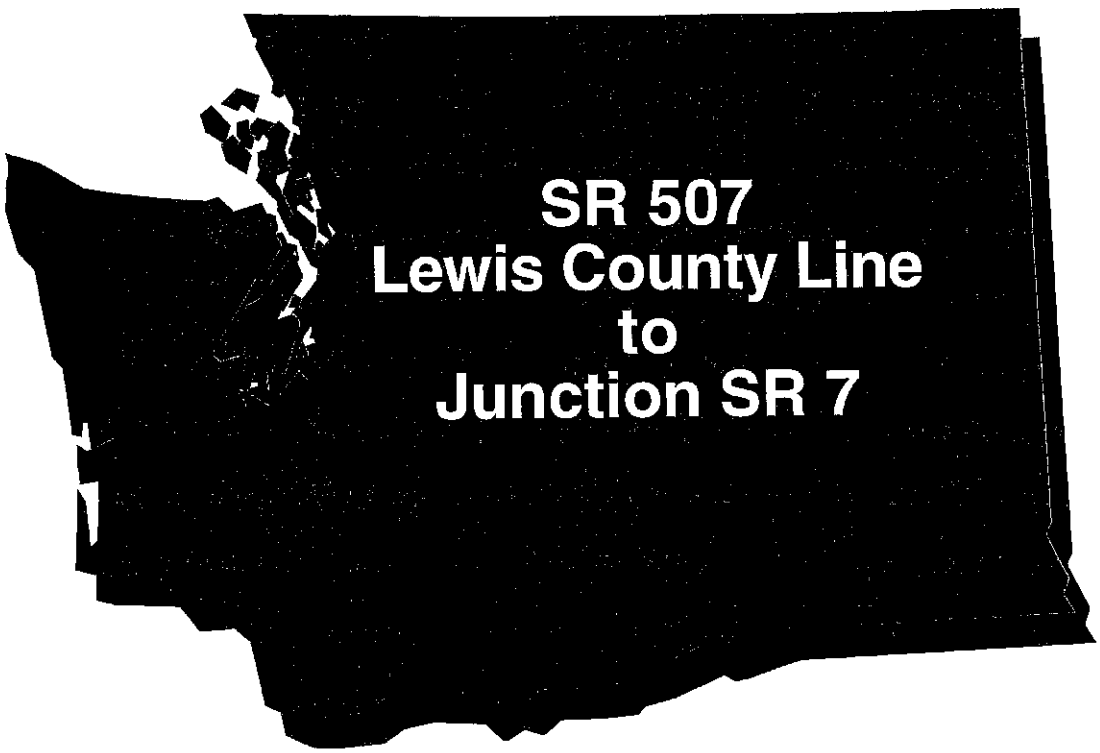
State Route 507 Route Development Plan



Washington State
Department of Transportation
Olympic Region

WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
OLYMPIC REGION
TUMWATER, WASHINGTON

ROUTE DEVELOPMENT PLAN
STATE ROUTE 507
LEWIS COUNTY LINE TO SR 7
MP 5.44 TO MP 43.57

January 1998

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WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
OLYMPIC REGION

ROUTE DEVELOPMENT PLAN

STATE ROUTE 507
LEWIS COUNTY LINE TO SR 7
MP 5.44 TO MP 43.57

Approved By:

Region Administrator, Olympic Region — Date: 1/7/98

Concurrence:

State Design Engineer, O.S.C, — Date: 1/9/98

Concurrence:

Transportation Planning Office Manager, O.S.C. — Date: 1/26/98

CONTENTS

Vision Statement

An efficient network of transportation facilities in the Puget Sound Region is vital to moving people and goods. Transportation affects us all--our lives and livelihoods depend a great deal on an efficient transportation system that offers opportunities for various choices and modes of travel. To many extents our transportation facilities have served our travel needs, but they were constructed to accommodate a population of the past. It is evident that many transportation facilities in the Puget Sound region are now experiencing their service limits.

In order to assure an efficient transportation system for the future, it is important to plan for the growth that continues to occur. This Route Development Plan (RDP) outlines a vision for the future development of State Route 507. It was created with the help of a Stakeholder Steering Committee and citizens who took an active interest in the transportation planning process. This Plan provides recommended improvement strategies to existing and future deficiencies of the transportation system in the SR 507 corridor. Some of the recommended improvements in this RDP, such as access management implementation, are critical to assure adequate operation of State Route 507 in the future.

The recommended improvements and goals for the future development of SR 507 were achieved through cooperative planning efforts and consensus with affected city, county, and regional agencies. The State Route 507 Steering Committee members provided valuable contributions in the development of this RDP. They shared with the committee their respective agency Comprehensive Plans and transportation goals, policies, and targeted highway improvement projects. Collectively, these Comprehensive Plans and the *WSDOT State Highway System Plan* provided the impetus for what is recommended in this Route Development Plan.

Study Limits
The study limits of this RDP begin at the Lewis/Thurston County line and end at State Route 7 (Roy Wye) in Pierce County. The milepost limits are from MP 5.44 to MP 43.57.

Organization of this Report
This SR 507 Route Development Plan is organized by various topics. To begin with, Chapter 1 discusses the route location, its classifications and existing conditions such as highway alignment, right-of-way, and geometric cross sections.

Traffic information and land use are presented in Chapter 2 of this RDP. Highway operating Levels of Service (LOS) are summarized, and tables are provided that highlight existing and future LOS for highway segments.

Chapters 3 presents recommendations for highway improvements. Nearly all of the mobility improvements listed for these routes would required additional revenue authority, such as an increased gas tax.

Appendix A in this RDP summarizes the local agency and public involvement process. These efforts added much value to this report, allowing the RDP Steering Committee to make decisions and recommend improvements based on many different agency and public needs.

Appendix B lists the objective statements and associated generic alternatives developed and adopted by the SR 507 Route Development Plan Steering Committee.

Appendix C contains letters of concurrency and comments from the various agencies that participated in the development of this RDP.

Appendix D of this RDP focuses on environmental issues at a screening level of analysis. This appendix provides an overview of existing environmental conditions and resulting concerns and/or limitations for the study area.

Appendix E offers selected text from WAC 468-52 for informational purposes as it relates to highway access management.

Appendix F provides a glossary of terms and abbreviations used in this RDP.

Appendix G of this RDP contains land use maps from the various towns, cities, and counties that SR 507 passes through.

Stakeholder and Public Involvement

A Steering Committee was formed to guide transportation decisions and reach a common vision on issues discussed in this RDP. This Committee included representatives from city, town, county, and regional agencies, Fort Lewis, and Intercity Transit.

WSDOT conducted two series of public open houses. The first round of four open houses was to solicit comments from the public regarding the route and the second round of four open houses was to present the recommendations developed by the Steering Committee. Additionally, two public opinion surveys were conducted. The first survey was supplied to participants attending the preliminary round of open houses. By obtaining license plate numbers from vehicles observed traveling along the route, a second, more formal survey was mailed out to 2700 users of the corridor.

Route Development Plan Recommendations

The recommendations in this Route Development Plan represent the efforts of many discussions with local agencies and the public. To aid the Steering Committee in reaching consensus on issues such as mobility, access management, and highway safety improvements, many WSDOT documents, including the current *State Highway System Plan, March 1996* and city and county comprehensive planning documents, were consulted. The *WSDOT Access Management Plan* classifications of SR 507 provided guidance to the Committee on the type of roadway median sections proposed as part of the mobility recommendations. The following page provides a brief summary of the Steering Committee's recommendations. A complete discussion of recommendations is presented in Chapter 3 of this RDP.

Summary of Steering Committee Recommendations

Lewis County to Yelm

- Provide additional capacity to SR 507 by constructing intermittent passing lanes between the communities of Tenino, Rainier, and Yelm.
- Widen existing shoulders to 4 foot minimum to meet standards for Designated Bicycle Touring Route from the Lewis Co. Line to Tenino.
- Recommend channelization and intersection improvements at Sixth Street in Bucoda.
- Possible capacity improvement strategies for the City of Tenino include; construct a couplet using SR 507 and a parallel city street, widen existing roadway, or develop an alternative route.
- Construct a one-way couplet system through the Town of Rainier using SR 507 and a parallel street.
- Construct additional crosswalks and sidewalks in areas near schools to provide walking routes for school children.
- Upgrade existing transit stops to meet Americans with Disabilities Act (ADA) standards and construct covered shelters.
- Recommend inter-county transit connection with Intercity Transit and Twin Transit.
- Construct park and ride lots in the City of Tenino and the Town of Rainier

City of Yelm

- The City of Yelm is developing plans for alternate routes both to the north and south of the city. Presently the City is focusing on the "Y-2" Alternate Route which would bypass to the south.
- Construct additional crosswalks and sidewalks in areas near schools to provide walking routes for school children.
- Upgrade existing transit stops to meet Americans with Disabilities Act (ADA) standards and construct covered shelters.
- Recommend inter-county transit connection with Intercity Transit and Pierce Transit.
- Construct park and ride lot in the City of Yelm

Yelm to Roy Wye

- Recommend constructing a four lane highway with a two way left turn lane through the community of McKenna.
- Provide additional capacity to SR 507 from McKenna to Roy, and from Roy to SR 7 by constructing a four lane divided highway.
- Possible capacity improvement strategies for the City of Roy include; construct 4 lane highway with center two way left turn lane, construct a couplet using SR 507 and a parallel city street or develop an alternative route.
- Recommend construction of crosswalks and sidewalks in areas near schools to provide walking routes for school children.
- Recommend Pierce Transit expand service to communities along SR 507.
- Partner with Fort Lewis to develop a crossing plan for their troops and equipment.

Conclusion

Planning is an ongoing process and must be flexible in order to incorporate unforeseen trends. One of the goals of this plan is to integrate the Department of Transportation's needs with the needs of local transit authorities, cities, counties, regions, citizen groups, and the traveling public. It is believed that this plan along with a certain amount of flexibility will provide a safer and well integrated transportation system for State Route 507. This Route Development Plan will be updated and modified periodically.

When approved, this long range plan will provide guidance for development of the Olympic Region's program of projects as well as guiding the Region's Development Services Team in defining developer impact mitigation measures. The Washington State Department of Transportation would like to express its sincere appreciation to the individuals and local and regional agencies that took an active role in the development of this plan. The WSDOT encourages these agencies to actively participate in future planning processes and to review and comment on the contents of this plan. Final approval of the State Route 507 Route Development Plan will be issued by the WSDOT Olympic Region Administrator.

Chapter 1 Description of Existing Facility and Services

1.1 Highway Location and Route Overview

State Route 507 begins in Lewis County at the interchange with Interstate 5 in the City of Centralia which lies within the WSDOT Southwest Region. SR 507 travels in a northeasterly direction through Centralia and Lewis County for 5.40 miles to the Thurston County line at which point it enters the WSDOT Olympic Region. It is at this point along SR 507 where this Route Development Plan begins.

State Route 507 continues in a northerly direction traversing Thurston and Pierce Counties to its end at the junction with State Route 7. The route is presently an all weather, two lane facility with left turn channelization provided at several of the major city and county intersecting streets and roads. Throughout its length, SR 507 encounters several bridges, streams, rivers, rail crossings, towns and cities.

The Puget Sound Regional Council's *Metropolitan Transportation Plan*, dated May 1995, depicts the significant highways in the region's current Metropolitan Transportation System (MTS). The MTS is comprised of regionally significant infrastructure and services which serve regional transportation functions. State Route 507 is identified in the MTS as a route that provides an important link of regional significance.

1.2 Character of Traffic and Local Network of Roads

SR 507 is a major traffic corridor for local and regional traffic traveling between Lewis, Thurston and Pierce Counties. The majority of vehicles traveling on SR 507 are commuters. The highest truck volumes on SR 507 are experienced in the Tenino area. The development growth rate along the northern portion of this corridor in recent years has been steadily increasing, consisting mainly of new housing developments. Traffic volumes are anticipated to continue to grow at a steady rate. More highway improvements will be needed as more developments such as shopping centers, service centers, manufacturing, single and multi-family residences and highway oriented businesses are established in the future.

The route is also used for recreational travel, such as providing indirect connections to destinations like Mount Rainier National Park and Northwest

Trek. In addition, the annual Seattle to Portland (STP) Bicycle event held every June uses the entire route as part of the course for that event.

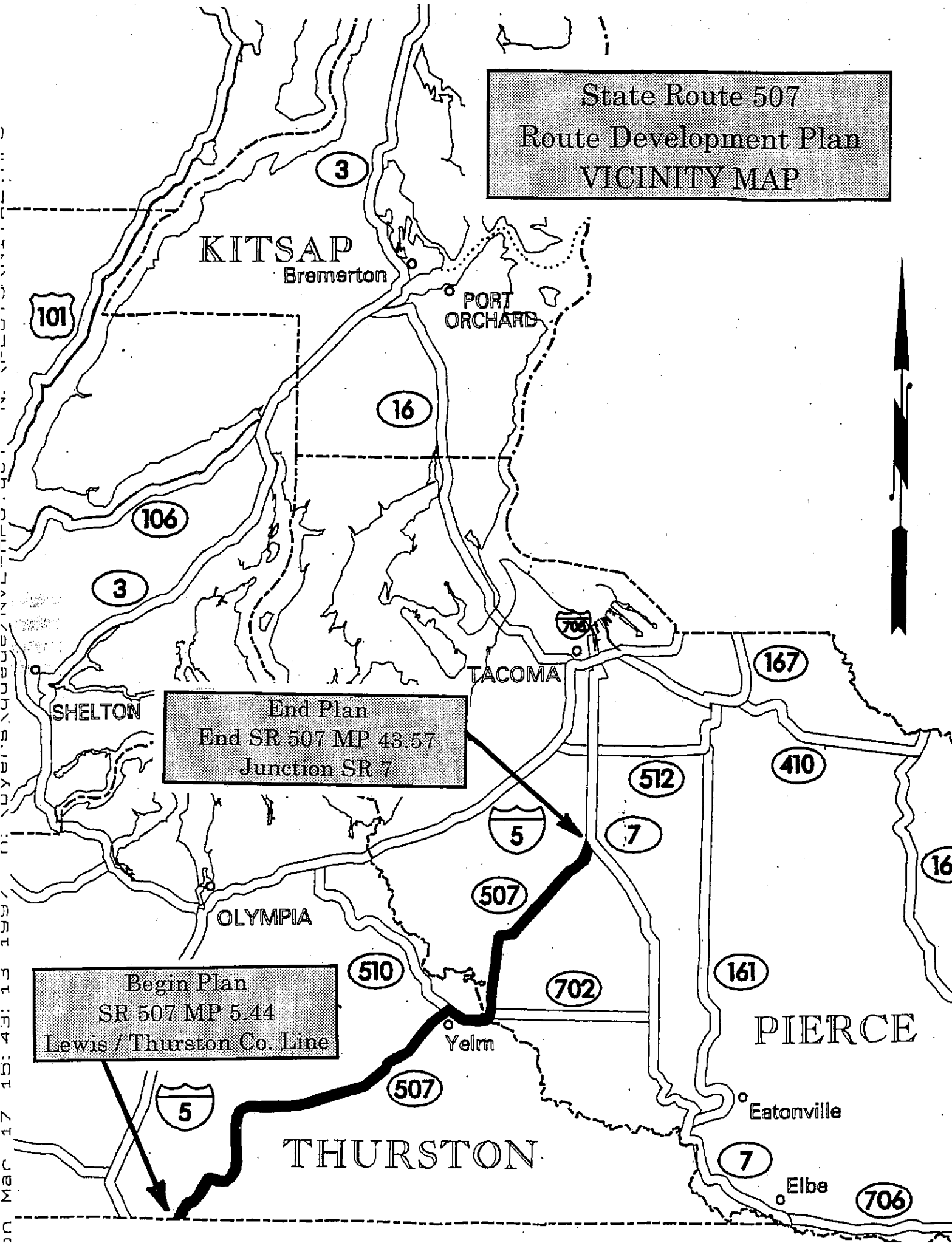
In addition to providing an inter-county link, SR 507 provides an essential connection between the communities of Bucoda, Tenino, Rainier and Yelm in South Thurston County and to the communities of McKenna and Roy in Pierce County.

State Route 507 is used by some travelers as an alternative to Interstate 5. It also has the ability to serve as a detour route in the event SR 5 is closed due to an accident, flooding or other major or unforeseen event. SR 507 is further connected to SR 5 by Old Highway 99 which traverses west from the south end of Tenino and has served as a detour route for vehicles on I-5 many times. At some point in the future, consideration could be given to making this section of county road part of SR 507 rather than the existing section to the south into Centralia. This may be a more logical southern segment for SR 507 due to the greater traffic volumes that are present on this county road and the more direct connection to Interstate 5 it offers. Old Highway 99 continues north from Tenino providing a significant north-south connection to the City of Tumwater.

Traveling northeast, SR 507 enters the town of Rainier and is intersected by Rainier Road which provides a connection with the City of Lacey to the north. Continuing northeast, SR 507 connects with SR 510 in the City of Yelm. SR 510 provides an essential link to Interstate 5, the City of Lacey and its surrounding area. This connectivity is vital for efficient and direct transportation into and out of the City of Yelm. SR 507 in the Yelm area is further served by numerous city and county roads, many of which provide connections to southeast Thurston County.

Leaving the City of Yelm and entering Pierce County, SR 702 intersects SR 507 in the community of McKenna. State Route 702 traverses east and connects SR 507 with SR 7, which provides a vital north-south link in Pierce and Lewis counties. From the town of McKenna to the end of the route at the junction with SR 7, SR 507 is served primarily by a network of county roads. A large portion of the rural land that borders both sides of SR 507 between Roy and SR 7, is owned by Fort Lewis, and therefore little development has occurred.

In addition to the network of state highways, there are numerous city and county roads in this rural region of Pierce County. Other regional roadway connections and improvements to existing local arterials are vital to provide travel choices within Thurston and Pierce Counties and to offset the demand for increased capacity on SR 507.


State Route 507
Route Development Plan
VICINITY MAP
KITSAP
Bremerton
PORT ORCHARD
TACOMA
SHELTON
OLYMPIA
Yelm
Eatonville
Elbe
PIERCE
THURSTON
End Plan
End SR 507 MP 43.57
Junction SR 7
Begin Plan
SR 507 MP 5.44
Lewis / Thurston Co. Line
3
101
16
106
3
705
167
512
410
5
7
507
510
702
161
5
507
7
706

End Plan
End SR 507 MP 43.57
Junction SR 7

MATCH TO PREVIOUS SHEET

YELM

SPANAWAY

State Route 507
Route Development Plan
Vicinity Map

1.3 Route Classifications

The following table identifies the various route classifications that apply to SR 507.

Table 1.3-1: Route Classifications
SR 507 Thurston/Lewis County Line (MP 5.44) to Jct. SR 7 (MP 43.57)

Item	MP to MP	Classification
Federal Functional Class	5.44 to 13.64	Major Collector
	13.64 to 43.57	Minor Arterial
State Functional Class	5.44 to 13.45	Rural-Collector
	13.45 to 43.57	Rural-Minor Arterial.
National Highway System Status	5.44 to 43.57	Not included in the National Highway System
Freight and Goods Transportation System Status	5.44 to 43.57	"T3" route meaning that 300,000 to 5,000,000 freight tons are transported over this route annually
Scenic and Recreational Highway System Status	5.44 to 43.57	Not designated by Legislature as one of Washington's Scenic and Recreational Highways
Bicycle Touring Route Status	5.44 to 43.57	Designated Bicycle Touring Route
Roadside Character	5.44 to 43.57	Rural
Terrain	5.44 to 43.57	Level
Access Management Classification	5.44 to 43.57	See table 1.4-1 for specific access management classifications

1.4 Access Management Plan Classifications

Background on the Access Management Plan

Access management is a technique for protecting the carrying capacity of highways and improving highway safety. It accomplishes these goals by minimizing disruptions to through traffic by eliminating unnecessary driveways and spacing them, managing the roadway median, spacing traffic signals and managing turning traffic, as well as other measures.

The Washington State Legislature passed a law called "Highway Access Management", RCW Chapter 47.50, in 1991. This law requires that WSDOT develop two sets of rules. The first set of rules (WAC 468-51) created an administrative policy for access to state highways and establishes access permit fees. The second set of rules (WAC 468-52) established five classifications and standards for non-limited access highways.

Access is controlled in two ways: through the purchase of access rights (limited access highways) or by regulating it (controlled access highways). A freeway is an example of a fully controlled limited-access highway. Some highways are partially limited with access rights having been purchased for parts of the roadway, thereby restricting access but not limiting it to ramps as with freeways. Managing access is more flexible and is also less costly to taxpayers.

The five access management classifications that have been assigned to state highways reflect different highway environments. Factors that were considered in developing the classifications are: traffic volume, speed limit, adjacent land use, functional classification, existing access density and safety. The five classifications and their typical characteristics are provided at the end of this section.

Access Management on SR 507

The Steering Committee members realized the present Access Management Plan (AMP) classifications, its associated typical restrictions and the importance of practical access management for SR 507. The *WSDOT Access Management Plan* classifications of SR 507 provided guidance to the Committee on the type of roadway median sections proposed as part of the mobility recommendations.

Table 1.4-1 summarizes the existing Access Management Plan classifications for State Route 507.

Table 1.4-1: WSDOT Access Management Plan
SR 507 Thurston/Lewis County Line to Jct. SR 7

Section Description	Length (miles)	Access Management Classification	Posted Speed Limit	Land Use
Thurston/Lewis County Line to Bucoda SCL (MP 5.44 to MP 9.48)	4.04	Class 2	50	Residential / Farm
Bucoda - SCL to NCL (MP 9.48 to MP 10.27)	0.79	Class 3	35	Residential
Bucoda NCL to Tenino SCL (MP 10.27 to MP 13.32)	3.05	Class 2	45/55	Residential / Farm
Tenino - SCL to ECL (MP 13.32 to MP 15.66)	2.34	Class 4	30/35	Residential / Commercial
Tenino ECL to Rainier SCL (MP 15.66 to MP 22.20)	6.54	Class 2	55	Farm / Forest
Rainier - SCL to NCL (MP 22.20 to MP 23.31)	1.11	Class 4	30/45	Residential / Commercial
Rainier - NCL to Yelm SCL (MP 23.31 to MP 27.95)	4.64	Class 2	55	Residential / Farm
Yelm - SCL to Mosman Avenue (MP 27.95 to MP 28.07)	0.12	Class 4	55-25	Residential / Commercial
Yelm - Mosman Avenue to Forth St. (MP 28.07 to MP 28.48)	0.41	Class 5	25	Commercial
Yelm - Forth Street to ECL (MP 28.48 to MP 29.23)	0.75	Class 4	25-35	Commercial
Yelm ECL to Pierce County Line (MP 29.23 to MP 30.67)	1.44	Class 2	35-50	Residential / Farm / Commercial
McKenna Community - Pierce Co. Line to Vic SR 702 (MP 30.67 to MP 31.26)	0.59	Class 4	35	Residential / Commercial
Vic. SR 702 to Roy (MP 31.26 to MP 35.19)	3.93	Class 2	50	Residential / Commercial
Roy - SCL to Vic. NCL (MP 35.19 to MP 35.97)	0.78	Class 4	35/30/45	Residential
Vic. Roy NCL to Junction SR 7 (MP 35.97 to MP 43.57)	7.60	Class 2	45/55	Residential / Farm

Source: WSDOT *Access Management Plan.*

The following page provides a brief description of the characteristics of the five different access classifications in the *WSDOT Access Management Plan.*

Access Management Plan Classifications
Typical Characteristics

Class 1 Facility

- High speed, high traffic volumes, long trips
- Median barrier typically used
- Planned intersection spacing = 1 mile
- Minimum private connection spacing = 1320 feet
- Private direct access to the state highway shall not be allowed except when the property has no other reasonable access to the general street system.

Class 2 Facility

- Medium to high speeds, medium to high traffic volumes, medium to long trips
- Median barrier typically used
- Planned intersection spacing = 1/2 mile
- Minimum private connection spacing = 660 feet
- Private direct access to the state highway shall not be allowed except when the property has no other reasonable access to the general street system.

Class 3 Facility

- Moderate speeds, moderate traffic volumes, short trips
- Balance between land access and mobility
- Median constructed of curbed asphalt or landscaped traffic islands
- A center two-way left-turn lane may be used as warranted
- Planned intersection spacing = 1/2 mile
- Minimum private connection spacing = 330 feet

Class 4 Facility

- Moderate speeds, moderate traffic volumes, short trips
- Balance between land access and mobility
- Two-way left-turn lane is typically used
- Planned intersection spacing = 1/2 mile
- Minimum private connection spacing = 250 feet

Class 5 Facility

- Low to moderate speeds, moderate to high traffic volumes, short trips
- Highest service to land access
- Planned intersection spacing = 1/4 mile
- Minimum private connection spacing = 125 feet

For additional information regarding the *WSDOT Access Management Plan*, consult Chapters 468-51 and 468-52 of the Washington Administrative Code (WAC) and Chapter 47.50 of the Revised Code of Washington (RCW). Some of this information has been provided in Appendix E of this document.

1.5 Existing Right-of-Way

Right-of-way along SR 507 varies greatly throughout its corridor. Several of the available right-of-way plans for SR 507 are incomplete and often lack sufficient widths and continuity. Many of the right-of-way questions that we face today arose when former county roads were added to the state highway system by the Legislature. Often these roads were originally established without any formal conveyance to the county. In addition, many right-of-way plans were prepared over 60 years ago by the counties and are now out of date.

Right-of-way widths for SR 507 generally are about 30 feet each side of the highway centerline. There are some areas such as south of Bucoda where the right-of-way width is often undefined and prescriptive rights are necessary for maintenance and other roadside work. In other areas, right-of-way widths can be more than 60 feet each side of centerline, such as between Rainier and Yelm.

If any widening is to be done along this route, a thorough search of both the WSDOT Olympic Region and Olympia Service Center records for deeds or other acquisition instruments documenting ownership may need to be performed. If these documents are incomplete or do not exist, a search of the county's records may need to occur. It is assumed that there will be instances where no records of the SR 507 right-of-way exist.

1.6 Existing Surface Geometrics

State Route 507 is a two-lane highway which provides one general purpose lane for each direction of travel. Lane widths on SR 507 are generally 11 feet wide. Shoulder widths vary from three to six feet the entire length of the highway except from the Lewis/Thurston County line to the town of Bucoda. Along this section, shoulder widths are as little as one foot.

The information on Table 1.6-1 presents geometrics along SR 507 in a general sense. For a thorough listing of all geometric conditions, including auxiliary and two-way left-turn lanes, refer to the most current *WSDOT State Highway Log*.

Table 1.6-1: Existing Surface Geometrics
SR 507 Thurston/Lewis County Line to Jct. SR 7

Section Description	Traffic Lanes	Shoulders
Lewis Co. Line to Tenino South City Limit MP 5.44 to MP 13.64	2 through lanes	Predominantly 3' to 6' paved shoulders with some areas with as little as 1'
Tenino South City Limit to Yelm East City Limit MP 13.64 to MP 27.32	2 through lanes **Channelized Intersections:** • City of Tenino-Olympia St.(MP 14.38) to Hodgen St.(MP 14.44) TWLTL	Predominantly 4' to 6' paved shoulders
Yelm East City Limit to Yelm South City Limit MP 27.32 to MP 29.23	2 through lanes **Channelized Intersections:** • TWLTL from MP 28.63 to MP 29.00 • Channelization and signal under construction by City of Yelm at Bald Hills Rd. I/S MP 29.24	Predominantly 4' to 6' paved shoulders
Yelm South City Limit to SR 7 MP 29.23 to MP 43.57	2 through lanes **Channelized Intersections:** • Channelization planned for Vail Rd. MP 30.50 • Channelization and signal under construction at SR 702 junction MP 31.09	Predominantly 4' to 5' paved shoulders

Source: WSDOT *State Highway Log, 1996*

1.7 Bridge and Structure Inventory

Information regarding existing bridges along SR 507 was provided by the WSDOT Bridge and Structures Office.

Table 1.7-1: Bridge and Structure Inventory
SR 507 Thurston/Lewis County Line to Jct. SR 7

Bridge Number Bridge Name Mile Post	Span Type	Length (feet)	Width (feet)	Year Built (rebuilt)
Skookumchuck River Bridge #507 / 102, MP 6.10	PCB	180	32.0	1971
BN RR UC (NP) #507 / 107, MP 13.68	SG SB	132	--	1935
Deschutes R #507 / 114, MP 20.43	SB	202	26.4	1943 (1952)
507 / 116 Weyerhaeuser RR OC MP 21.18	CS	159	36.0	1971
507 / 119 CW RR UC (CMSTPP) MP 23.46	SG TTT	764	--	1936
507 / 124 Yelm Creek MP 29.42	PCS	26	36.8	1986
507 / 126 Chehalis Western RR OC MP 30.05	PCB	159	36.0	1982
507 / 126.5 Centralia Power Canal MP 30.51	CS	33	72.0	
507 / 128 Nisqually River MP 30.64	PCB	284	36.0	1987
507 / 207 Muck Creek Overflow MP 38.49	CS	32	40.0	1920 (1950)
507 / 208 Muck Creek MP 38.95	CS	46	25.3	1920 (1950)

Data Received from WSDOT Bridge and Structures Office, Bridge Planning and Technology Section.

Abbreviations
CS-Concrete Slab
PCS-Pre-Tensioned Concrete Slab
SG SB-Steel Girder, Steel Beam
PCB-Pre-Tensioned Concrete Beam
SB-Steel Beam
SG TTT-Steel Girder, Creosote Treated Timber Trestle

1.8 Existing Horizontal and Vertical Alignment

Using data from the TRIPS system, the horizontal and vertical alignments of the subject area of this study were examined. The vertical alignment grades range from flat to 7%. The minimum and maximum vertical curve lengths used are 100 ft and 1000 ft. For the horizontal alignment, the curve radii range from 72 ft to 11,460 ft, with the lengths of curves ranging from 88 ft to 2907 ft. For a complete listing of this data, refer to the most current version of the *Horizontal and Vertical Alignment Report* from the WSDOT TRIPS System.

1.9 Existing Transit Services and Park & Ride Lots

This section provides general information on public transportation for SR 507. The Steering Committee's recommendations for improved transit service and park and ride lots are listed for each of the route segments under the heading *Recommendations* in Chapter 3.

Transit Services

Intercity Transit

Intercity Transit is currently providing transit service to the Town of Bucoda, City of Tenino, the Town of Rainier and the City of Yelm. Intercity Transit also provides transit service between the cities of Tenino and Yelm.

Presently, Intercity Transit's *Transit Development Plan, 1995-2000* does not identify the need for additional service along SR 507 but does recognize the need to increase the frequency of certain rural routes at peak times in conjunction with available funding.

Pierce Transit

At the time of this report, the only transit connection to SR 507 provided by Pierce Transit is at the Roy Wye Park-and-Ride facility, located at the junction of SR 507 and SR 7. From this facility, all day service is provided to both the Parkland and Puyallup/South Hill activity centers.

Pierce Transit's *System Plan* strategies include acquisition of land at the Roy Wye for construction of a transfer facility. Their system plan proposes acquiring this land within the years 2001-2010 and constructing the facility between the years 2011-2020. At this time, they show no further plans for SR 507. However Pierce Transit recognizes the need to monitor and evaluate its system plan and to maintain flexibility to respond to changing conditions and public input.

Park and Ride Lots

Lewis County

This RDP does not cover the section of SR 507 in Lewis County. However, a park-and-ride lot does exist at the Mellon Street (SR 507) interchange with Interstate 5 in Centralia.

Thurston County

Presently, there are no formal park-and-ride lots in the vicinity of SR 507 in Thurston County. The Steering Committee mentioned that an informal park-and-ride lot is being used by motorists at the intersection of SR 507 and the Vail Cutoff Road near Rainier. A park-and-ride lot does exist at the interchange of Interstate 5, US 12 and Old Highway 99 in the Grand Mound community. Old Highway 99 does provide a direct connection between Interstate 5 at Grand Mound and SR 507 in Tenino.

Pierce County

The only park-and-ride facility on SR 507 is a leased lot from Fort Lewis located at the "Roy Wye", the junction of SR 507 and SR 7. Presently, Pierce Transit's Vision 2020 Transportation Strategies does not contain future plans for any additional park-and-ride facilities on SR 507.

This RDP will be updated in the future to reflect new strategies outlined in local and regional plans and both the Intercity Transit's *Transit Development Plan* and Pierce Transit's *System Plan*.

Chapter 2 Land Use And Traffic Conditions

2.1 Land Use and Zoning

The need for land use planning and regulation increases as the demand for housing, streets, commercial facilities and public facilities grow. Limitations are placed on the use of land to minimize negative impacts to neighboring properties. Zoning regulates the locations of land uses as a means of assuring that land uses are compatible to one another. Zoning allows for control of densities in each zoning category, with the purpose of providing adequate facilities for such categories. Zoning ordinances are established to prescribe setbacks and minimum lot sizes and provide techniques to preserve and protect environmentally sensitive areas. The land use plan is a basic part of the comprehensive plan which is an official statement of the county or city policy establishing the direction it will follow as it develops and changes.

Knowing adjacent land use zonings along SR 507, traffic generated by expected development can be predicted. Land use zonings are taken into consideration when performing traffic modeling. The growth rates resulting from the EMME/2 Traffic Model performed by Pierce County Public Works and Utilities and Thurston Regional Planning Council's TMODEL2 reflect the existing and proposed land uses along the SR 507 corridor.

The proposed land use zonings for adjacent areas along SR 507 are shown on the land use maps in Appendix G. These maps have been provided from the respective city or county comprehensive plans.

Land Use Relates to the Improvement Recommendations for SR 507

Information regarding present and future land use zoning along SR 507 was obtained from city and county comprehensive plans, provided by Steering members during the preparation of this Plan. The Steering Committee reviewed this land use information (including zoning maps and existing public and private intersecting roadways) as they worked together to create the highway improvement visions shown in Chapter 3. A common goal through their process was to create a vision for SR 507 that allows for continued movement of people, goods and services in the future, while still providing access to and from the highway. Maps of existing and proposed future land use zonings for areas along SR 507 are provided in Appendix G.

In addition to prescribing more traffic lanes, the recommendations include access management techniques like constructing medians to reduce turning conflicts and upholding some basic principles of access management such as the frequency and locations of properly planned road approaches. These strategies are key to balancing the needs of access on and off of the highway while keeping the expected high volume of travelers moving through the SR 507 corridor.

2.2 Traffic Data Collection and Analysis

Traffic Volumes and Variables

The traffic volumes used for this study were obtained from actual field counts gathered by the WSDOT Olympic Region Traffic Office in 1996 and the traffic report of WSDOT TRIPS System. These values represent a "snapshot in time" of traffic data used in this study to determine existing operating levels of service (LOS) for SR 507. Future highway traffic volumes and LOS calculations were performed by applying travel model growth rates to the existing traffic volumes.

Highway Capacity

The average daily traffic (ADT) on highway segments was analyzed. The ADT is the volume of traffic passing a point or segment of a highway, in both directions, during a period of time, divided by the number of days in the period and factored to represent an estimate of traffic volume for an average day of the year.

The *Highway Capacity Manual* software was utilized to analyze traffic operations of highway segments. In the analysis of highway segments, the traffic volume used is the design hour volume (DHV) which is calculated by multiplying the ADT by the percentage of ADT occurring in the peak hour (K). The K values were obtained from the WSDOT Transportation Data Office at the Olympia Service Center. The values for the percentage of peak hour traffic in the heaviest direction of flow (D) and the truck percentage (T) were taken from actual counts. For the purpose of future traffic level of service calculations, the K, D and T values were assumed to remain constant to year 2016.

Regional Travel Demand Model Growth Factors

Thurston Regional Planning Council and Pierce County Public Works and Utilities provided the Steering Committee with projected growth rates for use in forecasting future traffic volumes on SR 507. The annual traffic growth rates, generated by Thurston Regional Planning Council using the TMODEL2 (version 2.51) Traffic Model on 11/19/96 range from 3.0% to 4.5%. The annual traffic growth rates, generated by Pierce County Public Works and Utilities using the EMME/2 (1996 version) Traffic Model on 1/17/97 range from 2.2% to 3.0%.

These growth rates were applied to the 1996 traffic volumes to project the traffic volumes to the planning horizon year 2016 by annual compounding. Traffic models are an evolving source of information that change with time. Growth rates used from the model represent a "snapshot in time" taken during the RDP preparation period.

Table 2.2-1: Input Data For LOS Calculations
SR 507 Thurston/Lewis County Line to Jct. SR 7

Segment Description	1996 ADT	1996 DHV	1996 DDVH	Growth Rate/yr	K	D	T
Lewis County Line to Grand Mound Highway MP 5.44 to MP 13.64	2,900	290	148	3.90	10	51	8
Grand Mound Highway. to Old Highway 99 MP 13.64 to 14.67 MP	8,340	751	398	3.50	9	53	9
Old Highway 99 to Military Rd MP 14.67 to MP 17.85	5,050	505	268	4.20	10	53	8
Military Rd to Johnson Creek Rd MP 17.85 to MP 20.04	3,750	338	179	3.60	9	53	14
Johnson Creek Rd to Vail Cut-off Rd MP 20.04 to MP 22.03	4,350	392	196	3.90	9	50	10
Vail Cut-off Rd to Minnesota St. MP 22.03 to MP 22.60	5,400	486	243	3.90	9	50	10
Minnesota St. to Center St. MP 22.60 to MP 22.74	6,700	670	342	4.20	10	51	5
Center St. to Koeppen Rd MP 22.74 to MP 24.25	5,640	508	259	3.40	9	51	5
Koeppen Rd to SR 510 MP 24.25 to MP 28.24	6,350	699	433	4.00	11	62	5
SR.510 to Bald Hills Rd MP 28.24 to MP 29.24	13,900	1,251	663	3.00	9	53	4
Bald Hills Rd to Vail Rd MP 29.24 to MP 30.50	11,060	1,217	608	3.90	11	50	5
Vail Rd to SR 702 MP 30.50 to MP 31.09	13,700	1,233	629	3.90	9	51	7
SR 702 to 288th St. (Roy Vic) MP 31.09 to MP 36.22	8,730	786	424	2.20	9	54	5
288th St. to Lyle Rd (Roy) MP 36.22 to MP 35.94	11,120	1,001	510	2.20	9	51	5
Lyle Rd to East Gate (Ft. Lewis) MP 35.94 to MP 39.59	9,400	846	440	2.50	9	52	4
East Gate(Ft. Lewis) to 8th Av E MP 39.59 to MP 42.39	9,950	896	448	2.70	9	50	5
8th Ave E to 208th St. E MP 42.39 to MP 42.43	12,740	1,147	573	2.70	9	50	5
208th St. E to SR 7 MP 42.43 to MP 43.57	10,268	924	490	2.70	9	53	4

Source: WSDOT Traffic Counts, Highway System Plan, Thurston Regional Planning Council and Pierce County Public Works

2.3 Present and Future Traffic Conditions

The preceding section described the methodology behind the highway level of service evaluation of SR 507. This section presents the results of the highway segment analyses performed.

The Mobility Subprogram of the *WSDOT State Highway System Plan* states:

> "Mitigate congestion on urban highways in cooperation with local and regional jurisdictions when the peak period level of service falls below Level of Service D.
>
> Provide uncongested conditions (Level of Service C) on rural highways."

Without any capacity improvements to the existing facility, traffic operations on the more congested sections of SR 507 are expected to deteriorate by the year 2016.

- From the Lewis County line to the Grand Mound Highway, traffic will continue to operate at or above the recommended minimum Level of Service C for rural areas through the 20 year planning horizon.

- The future operational level of service through the City of Tenino from the Grand Mound Highway to Old Highway 99 is projected to be operating at a LOS E.

- From Old Highway 99 in Tenino to the junction with SR 510 in Yelm, traffic conditions will be operating between a LOS D and LOS E.

- Through the City of Yelm beginning at the SR 510 junction and on to Vail Road, traffic is projected to be operating at a LOS F by the year 2016. From the MP 27.32 to MP 29.23, the highway is within the Yelm Urban Growth Area.

- From Vail Road near McKenna, to the end of the route at the junction with SR 7, traffic will be experiencing a LOS E by the year 2016.

Table 2.3-1 identifies existing and projected traffic volumes.

Table 2.3-2 identifies existing and projected operating levels of service with and without improvements.

Table 2.3-1: Existing and Projected Traffic Volumes.
SR 507 Thurston/Lewis County Line to Jct. SR 7

Segment Description	1996 ADT	1996 DHV	1996 DDVH	2016 ADT	2016 DHV	2016 DDHV
Lewis County Line to Grand Mound Highway MP 5.44 to MP 13.64	2900	290	148	6233	623	318
Grand Mound Highway. to Old Highway 99 MP 13.64 to 14.67 MP	8340	751	398	16595	1494	792
Old Highway 99 to Military Rd MP 14.67 to MP 17.85	5050	505	268	11499	1150	609
Military Rd to Vail Cut-off Rd MP 17.85 to MP 22.03	4050	365	188	13122	1184	610
Vail Cut-off Rd to Minnesota St. MP 22.03 to MP 22.60	5400	486	243	11626	1046	523
Minnesota St. to Center St. MP 22.60 to MP 22.74	6700	670	342	15256	1526	778
Center St. to Koeppen Rd MP 22.74 to MP 24.25	5640	508	259	11008	991	505
Koeppen Rd to SR 510 MP 24.25 to MP 28.24	6350	699	433	13914	1530	949
SR 510 to Bald Hills Rd MP 28.24 to MP 29.24	13900	1251	663	25105	2259	1198
Bald Hills Rd to Vail Rd MP 29.24 to MP 30.50	11060	1217	608	23772	2615	1307
Vail Rd to SR 702 MP 30.50 to MP 31.09	13700	1233	629	29446	2650	1352
SR 702 to 288th St. (Roy Vic) MP 31.09 to MP 35.19	8730	786	424	13491	1214	656
288th St. to Lyle Rd (Roy) MP 35.19 to MP 36.22	11120	1001	510	17184	1547	789
Lyle Rd to East Gate (Ft. Lewis) MP 36.22 to MP 39.59	9400	846	440	15403	1386	721
East Gate(Ft. Lewis) to 8th Av E MP 39.59 to MP 42.39	9950	896	448	16952	1526	763
8th Ave E to 208th St. E MP 42.39 to MP 42.43	12740	1147	573	21706	1954	977
208th St. E to SR 7 MP 42.43 to MP 43.57	10268	924	490	17494	1574	834

Source: WSDOT Traffic Counts

Table 2.3-2: Existing and Projected Operating Levels of Service
SR 507 Thurston/Lewis County Line to Jct. SR 7

Segment Description	Existing Conditions LOS (1996/97)	Projected LOS Without Improvements 2016	Projected LOS With Improvements 2016 *
Lewis County Line to Grand Mound Highway MP 5.44 to MP 13.64	B	C	No Improvements Recommended
Grand Mound Highway to Old Highway 99 (**Tenino Vic.**) MP 13.64 to 14.67 MP	D	E	See Note (1) on following page
Old Highway 99 to Military Rd MP 14.67 to MP 17.85	C	D	A
Military Rd to Johnson Creek Rd MP 17.85 to MP 20.04	B	D	A
Johnson Creek Rd to Vail Cut-off Rd MP 20.04 to MP 22.03	B	D	A
Vail Cut-off Rd to Minnesota St. MP 22.03 to MP 22.60	C	D	A
Minnesota St. to Center St. (**Rainier Vic.**) MP 22.60 to MP 22.74	D	E	See Note (2) on following page
Center St. to Koeppen Rd MP 22.74 to MP 24.25	C	D	A
Koeppen Rd to SR 510 MP 24.25 to MP 28.24	D	E	A
SR 510 to Bald Hills Rd (**Yelm Vic.**) MP 28.24 to MP 29.24	E	F	See Note (3) on following page
Bald Hills Rd to Vail Rd MP 29.24 to MP 30.50	D	F	B
Vail Rd to SR 702 MP 30.50 to MP 31.09	D	F	B
SR 702 to 288th St. MP 31.09 to MP 35.19	D	E	A
288th St. to Lyle Rd (**Roy Vic.**) MP 35.19 to MP 35.94	D	E	See Note (4) on following page
Lyle Rd to East Gate (Ft. Lewis) MP 35.94 to MP 39.59	D	E	A
East Gate(Ft. Lewis) to 8th Av E MP 39.59 to MP 42.39	D	E	A
8th Ave E to 208th St. E MP 42.39 to MP 42.43	D	E	A
208th St. E to SR 7 MP 42.43 to MP 43.57	D	E	A

* See Chapter 3 for Recommended Improvements

Table 2.3-2 Notes

Note 1: Since a specific capacity improvement strategy has not been developed (see Chapter 3) for the City of Tenino, it is difficult to predict the level of service that would be realized from an improvement project. It is assumed however, that any capacity improvement project would provide an improved level of service over a "do nothing" alternative.

Note 2: Chapter 3 identifies an improvement recommendation to construct a one-way couplet system in the Town of Rainier. The operating LOS of such a facility was not analyzed with available software resources. It is assumed by the Steering Committee that this capacity increase would realize an improved LOS condition for the Town of Rainier through the planning horizon year 2016.

Note 3: Chapter 3 identifies an improvement recommendation to provide a southern bypass of Yelm (known as "Y-2") to help ease congestion on the existing SR 507 (Yelm Avenue). The City is currently studying this improvement to establish a preferred alignment. The results of this study will include benefits such as level of service improvements. This information, when available, will be included in future revisions to this Plan. It is assumed by the Steering Committee that this capacity improvement strategy will allow motorists a choice of roadways on which to travel, thus resulting in an improved LOS on the network of roads in Yelm.

Note 4: Chapter 3 identifies a capacity improvement recommendation that calls for widening the existing route by providing two additional through lanes with a center two-way left-turn lane through the City of Roy. The operating LOS of such a facility was not analyzed with available software resources. It is assumed by the Steering Committee that this capacity increase would realize an improved LOS condition for the City of Roy through the planning horizon year 2016.

Chapter 3 Steering Committee Recommendations

This chapter presents a listing of improvements to the SR 507 corridor recommended by the Steering Committee, including highway capacity and design speed recommendations, as well as non-motorized facilities and public transportation services.

Two public opinion surveys were conducted (see Appendix A, Agency and Public Involvement), as well as many public open houses and four Steering Committee meetings. These opportunities provided valuable input to the decision making that went into the recommended highway improvement strategies in this plan.

Every effort was made to apply good engineering judgment to develop improvement strategies for the issues and concerns raised by the public and stakeholder agencies. Strategies outlined in the *WSDOT State Highway System Plan* and local and regional comprehensive plans were evaluated.

Because of the length of this route, its varied roadway characteristics, traffic volumes and needs, the highway improvement recommendations are presented according to the following route segments.

Following section 3.9, the remainder of Chapter 3 provides discussions regarding Transportation Demand Management, Traffic Signals, Non-Motorized Facilities, Highway Safety, and other related planning studies.

3.1 Lewis County Line To City of Tenino

This first segment of SR 507 is 7.88 miles in length. It begins at the Lewis/Thurston County line at milepost 5.44 and continues to the City of Tenino at milepost 13.32. This section of highway is rural in character and has low traffic volumes. This condition is expected to continue over the next twenty years.

Highway Capacity and Access Management

The Steering Committee does not recommend any additional general purpose travel lanes for this segment of SR 507. However, the Committee does recommend that turn lanes be added to the intersection of SR 507 and Sixth Street in Bucoda, when warranted, to provide adequate storage capacity for turning vehicles while minimizing the disruption to through traffic on SR 507.

The Steering Committee also identified the need to emphasize Travel Demand Management (TDM) strategies such as encouraging people to walk, bicycle, carpool or use existing and future transit options to help offset the inevitable increase in traffic volumes along this segment of SR 507.

The Committee concurs that the present Access Management Plan Classifications (see table 1.4-1) are sensible for this segment of SR 507.

Non-Motorized Transportation

The Steering Committee identified the need to widen the existing shoulders from the Lewis County line to the Town of Bucoda to meet the minimum 4-foot requirement for bicycle touring routes.

The Steering Committee recommends the construction of sidewalks to provide walking routes for grade school children in Bucoda. In addition, the Town of Bucoda requests that a flashing light be installed at the existing pedestrian crossing located at MP 9.91. The Olympic Region Traffic Office was informed of this request.

Public Transportation

The Steering Committee recommends improving the existing transit stop in the Town of Bucoda. The Committee's recommendations include construction of a transit bulb, which is a paved pullout for transit buses, and the addition of a covered shelter for transit riders.

The Committee recommends improving the existing transit stop at the intersection of 184th Avenue SE to meet Americans with Disabilities Act (ADA) requirements and construct a covered shelter for transit riders.

The Steering Committee identified the need to expand transit service south of Bucoda when rider demand warrants. In addition, development of a inter-county connection between Intercity Transit and Twin Transit is recommended, again when rider demand warrants.

Highway Safety and Recommended Design Speed

Future highway improvement projects will be designed according to WSDOT design standards, which are based in part on design speeds. As part of this Route Development Planning effort, WSDOT staff analyzed SR 507 in order to determine and recommend a design speed.

A design speed of **50** miles per hour is recommended for the section of highway between the Lewis County Line and Bucoda. Within the town limits of Bucoda, a design speed of **35** mph is recommended. Finally, for the section of highway between Bucoda and Tenino a design speed of **60** mph is recommended.

This design speed recommendation, in conjunction with the WSDOT Safety Program, will allow WSDOT design staff to address what the highway design standards should be. Table 3.13-1 provides a complete listing of the recommended design speeds for each segment of SR 507.

Safety issues on all state routes are addressed through the WSDOT's Safety Program (I-2). Chapter 3.13 offers a more detailed explanation of this program. In addition, the *WSDOT State Highway System Plan* contains a listing of the current 20 year safety improvement strategies for SR 507.

Justifications for Recommendations

Highway Capacity

The Steering Committee did not identify any highway capacity deficiencies along this segment of SR 507. Forecasted traffic volumes to the year 2016 do not warrant additional traffic lanes. If no capacity improvements are made, it is expected that this segment of SR 507 will operate at or near a Level of Service C through the planning horizon of 2016. As this Route Development Plan is updated in the future, traffic volumes will be reevaluated and capacity recommendations will reflect a new 20-year planning horizon.

The Steering Committee identified the need to provide turning movement storage on SR 507 at Sixth Street in Bucoda. Presently, when a train is stopped on the tracks in Bucoda it blocks Sixth Street, and surprisingly prevents access to the town from SR 507. Consequently, there is very little storage capacity between the tracks and SR 507 which can force a queue of vehicles to back up onto SR 507. As traffic volumes increase in the future, this could become a more significant problem.

Non-Motorized Transportation

The first four miles of this segment of SR 507 has narrow shoulders that vary from one to four feet wide. SR 507 is listed as a designated Bicycle Touring Route and also is part of the annual Seattle to Portland Bicycle Ride. In addition, bicycle clubs identify this highway as a bike route in their books and publications. The Town of Bucoda's desire to have a flashing crosswalk light is due in part to the number of people that live on the west side of SR 507 and must cross the highway to shop or use services such as the post office in town.

Public Transportation

The need to improve the existing transit stop in the Town of Bucoda was identified. Although this transit stop is not located directly on SR 507, it is an essential component in reducing the number of vehicles using SR 507.

At such time an inter-county transit connection is realized, a potential transfer point at Schaefer Park in Lewis County was suggested. At such time transit service is expanded south of Bucoda, additional stops will also need to be developed. Two possible locations discussed for future transit stops were Troy Drive SE and O'Conner Road. Both of these locations may require minor shoulder widening to meet ADA requirements and would benefit from covered transit shelters.

Steering Committee Objectives and Alternatives

Objective statements and generic alternatives were developed by the Steering Committee to be used as the framework to arrive at recommendations relating to highway mobility and safety, transit, travel demand management and social & economic impacts. Many of these objectives and alternatives will be measurably satisfied with the completion of the Steering Committee recommendations. Appendix B contains a complete listing of these objective and alternative statements.

Public Opinion

The WSDOT, using the services of Pacific Rim Resources, conducted a public opinion survey to gain the public's opinion on the steering committee's proposed improvement strategies that were developed for State Route 507. Appendix A provides a detailed explanation of the public involvement process and this survey.

Respondents who were familiar with SR 507 between the Lewis County line and the City of Yelm were asked if they would consider using an inter-county transit connection linking Intercity Transit and Twin Transit at a location south of Bucoda. Few respondents expressed an interest in such a connection with 80% of respondents indicating that they would be 'Very Unlikely' to use the service if it were available.

3.2 City of Tenino

Beginning at the junction with Old Highway 99 and the south city limit of Tenino at milepost 13.32, this 2.34-mile-long segment traverses through the City of Tenino ending at the City's east limit at milepost 15.66. Of all the vehicles traveling through the City of Tenino, a higher percentage are trucks than compared to most of the other segments along the route.

Highway Capacity and Access Management

The Steering Committee recommends that the existing two way left turn lane between Olympia Street and Hodgden Street be extended west to Ritter Street and east to Stage Street. This short term improvement could be accomplished through re-striping the existing roadway with some loss of on-street parking. The Steering Committee agrees with the City's desire to maintain on-street parking where practical. Long term capacity improvements could come in the form of a one-way couplet or alternate route in order to maintain on-street parking and the character of the community as described in Tenino's *Economic Development Plan,* dated September 1996.

The Steering Committee also identified the need to emphasize travel demand management (TDM) strategies such as encouraging people to walk, bicycle, carpool or use existing and future transit options to help offset the inevitable increase in traffic volumes along this segment of SR 507.

The Steering Committee does not recommend any change to the existing Access Management Plan Class 4 designation (see table 1.4-1) for this segment of SR 507.

Non-Motorized Transportation

The Steering Committee recommends sidewalk and crosswalk improvements where necessary in order to provide walking routes for school children.

Public Transportation

Intercity Transit provided the Committee with a listing of transit stops that would benefit from the construction of concrete or asphalt pads to accommodate the wheel chair lifts on transit buses. These transit stops are located at Eureka Street, Bognor Street, O'Brien Street, Custer Street, Stage Street, Keithahn Street and Wichman Street, which are all in Tenino. Each of these transit stop improvement locations should be reviewed to insure adequate sight distance exists for vehicles traveling on both the mainline and side streets.

Highway Safety and Recommended Design Speed

The "street-like" characteristics of this segment with its closely spaced intersections and slower speeds make a design speed recommendation for this segment unnecessary. With a posted speed limit of **30-35 mph** within the city limits, the existing geometrics are adequate for this route segment. Table 3.13-1 provides a complete listing of the recommended design speeds for each segment of SR 507.

Safety issues on all state routes are addressed through the WSDOT's Safety Program (I-2). Chapter 3.13 offers a more detailed explanation of this program. In addition, the *WSDOT State Highway System Plan* contains a listing of the current 20 year safety improvement strategies for SR 507.

Justifications for Recommendations

Highway Capacity

If no capacity improvements are made, this segment of the highway which is currently operating at a Level of Service D during the peak hour will deteriorate to a LOS E at or before the year 2016. This is due in part to the high volume of trucks, lack of storage for left turns and the need for additional lanes for through vehicles. The Steering Committee recognized the need to maintain truck traffic on Sussex Avenue (SR 507) due to city streets being unable to support the heavier loads. If neither the one way couplet or alternative route strategies were implemented, adding two additional lanes through Tenino would need be considered as another alternative. However, this would eliminate on-street parking on SR 507 through Tenino.

Long term capacity improvements will eventually be needed for this community. Tenino's *1994 Comprehensive Plan* had suggested using Park Street which runs parallel to and south of SR 507 as an alternate route. The City has since dismissed this idea due to existing land uses such as the elementary school, city park and swimming pool being adjacent to Park Street. Further study of this City's traffic patterns and economic needs will be necessary to provide the appropriate capacity improvements for this highway segment.

Non-Motorized Transportation

Tenino's *Economic Development Plan* describes a number of methods for enhancing the streetscape of Sussex Avenue and improving pedestrian and bicycle access throughout the city. Some of these strategies include fulfilling the Americans with Disabilities Act (ADA) requirements regarding sidewalk widths and cuts and locating bicycle racks along Sussex Avenue. The Plan also identified the need to replace sidewalks throughout the town and to construct sidewalks where none exist.

The City of Tenino has four schools, all within just a few blocks of SR 507. Construction of additional sidewalks should be considered to provide walking routes for these school children. This addition of sidewalks would also complement Tenino's *Economic Development Plan*.

Public Transportation

The City of Tenino requested an easement from Thurston County to construct a new police station on the recently abandoned Yelm to Tenino rail corridor that runs through downtown Tenino. The City of Tenino is currently developing plans for a potential park-and-ride lot in conjunction with their new police facility.

The identified transit stops requiring improvement were provided by Intercity Transit. At such time capacity improvements are funded for this segment, Intercity Transit should be contacted to provide an updated list of its improvement recommendations for existing transit stops along this segment of SR 507.

A park-and-ride study prepared for Intercity Transit by JHK & Associates in 1995 contains recommendations for several potential new locations of park-and-ride facilities by the year 2000. These locations include 20 spaces in the City of Tenino. The 1992 draft *Thurston Regional Transportation Plan* also shows the need for park-and-ride facilities in Tenino and the Town of Bucoda. Intercity transit intends to apply for grants in the future to study other possible park-and-ride locations along SR 507.

Steering Committee Objectives and Alternatives

Appendix B contains objective statements and generic alternatives that were developed by the Steering Committee to address issues relating to mobility, safety, transit, travel demand management and social & economic impacts. Many of those objectives and alternatives will be satisfied with the completion of the Steering Committee recommendations.

Public Opinion

The WSDOT, using the services of Pacific Rim Resources, conducted a public opinion survey to gain the public's opinion on the Steering Committee's proposed improvement strategies that were developed for State Route 507. Appendix A provides a detailed explanation of the public involvement process and this survey.

Respondents who were familiar with SR 507 between the Lewis County line and the City of Yelm were asked about their level of support for various strategies to solve some of the traffic congestion through the City of Tenino. Responses are fairly evenly split between the three suggested improvements, with 31% selecting 'widening and adding lanes to the existing road', 28% selecting construction of a couplet (two one-way, two lane roads) using SR 507 and another city street, and 28% selecting construction of an alternate route. The remaining respondents (14%) recommended no capacity improvements for this section of highway.

Few respondents expressed an interest in using a future park-and-ride lot in Tenino with 95% of the respondents indicating that they would not use one at all, while 3% indicated that they would use it 1 to 2 times a per week. The remaining 2% indicated that they would use it 3 or more times per week.

3.3 City of Tenino to Town of Rainier

This segment of State Route 507 is 6.54 miles in length. It begins at the east city limit of Tenino at milepost 15.66 and ends at the west limit of the Town of Rainier at milepost 22.20. This segment of highway is rural in character with a high percentage of trucks.

Highway Capacity and Access Management

Based on the projected future traffic volume for this segment of SR 507, **the Steering Committee recommends that intermittent passing lanes be constructed when warranted** to accommodate the future increase in traffic volumes.

In addition, the Steering Committee recommends construction of acceleration/deceleration lanes when warrants are met at the junction of SR 507 and the Vail Cut-Off Road.

The Steering Committee also identified the need to emphasize travel demand management (TDM) strategies such as encouraging people to walk, bicycle, carpool or use existing and future transit options to help offset the inevitable increase in traffic volumes along this segment of SR 507.

The Steering Committee concurred that the present Access Management Plan Class 2 designation (see table 1.4-1) is sensible for this segment of SR 507.

Public Transportation

There is currently a transit stop and an informal park-and-ride lot at the junction of SR 507 and Vail Cut-Off Road. The Steering Committee suggests that improvements be made to this stop by widening and paving the existing pull out and constructing a covered transit shelter to encourage transit use. However, these improvements may be restricted by the abandoned Burlington Northern Railroad that is adjacent to this site.

Highway Safety and Recommended Design Speed

Future highway improvement projects will be designed according to WSDOT design standards, which are based in part on design speeds. As part of this Route Development Planning effort, WSDOT staff analyzed SR 507 in order to determine and recommend a design speed. For this section of SR 507 a design speed of **60** miles per hour is recommended. This design speed recommendation, in conjunction with the WSDOT Safety Program, will allow WSDOT design staff to address what the highway design standards should be.

Table 3.13-1 provides a complete listing of the recommended design speeds for each segment of SR 507.

Safety issues on all state routes are addressed through the WSDOT's Safety Program (I-2). Chapter 3.13 offers a more detailed explanation of this program. In addition, the *WSDOT State Highway System Plan* contains a listing of the current 20 year safety improvement strategies for SR 507.

Justifications for Recommendations

Highway Capacity

This segment of SR 507 is currently operating at a Level of Service (LOS) B. However, future projected growth rates indicate this will decline to a LOS D at or before the year 2016. In addition, passing opportunities along this segment of highway are limited due to vertical and horizontal alignments, particularly in the Macintosh Lake area. If intermittent passing lanes were constructed, the expected level of service would be a LOS A through the planning horizon of 2016.

The Vail Cut-Off Road experiences high volumes of trucks due in part to the Weyerhaeuser Company's transfer station being located off that road. Trucks using this road may impede traffic flow on SR 507 as they either pull onto or off the highway.

Non-Motorized Transportation

In 1993, WSDOT granted Thurston County $200,000 to purchase the recently abandoned Yelm to Tenino rail corridor from the Burlington Northern Railroad. The intent of the WSDOT grant was to preserve this corridor for future rail use including possible high-speed passenger trains and freight rail. While Thurston County owns the corridor, WSDOT has a continuing contingent interest and any modification to the corridor must be approved by WSDOT. Currently, the corridor is managed and maintained as an interim hiking trail by Thurston County Parks and Recreation.

Steering Committee Objectives and Alternatives

Appendix B contains objective statements and generic alternatives that were developed by the Steering Committee to address issues relating to mobility, safety, transit, travel demand management and social & economic impacts. Many of those objectives and alternatives will be satisfied with the completion of the Steering Committee recommendations.

Public Opinion

The WSDOT, using the services of Pacific Rim Resources, conducted a public opinion survey to gain the public's opinion on the steering committee's proposed improvement strategies that were developed for State Route 507. Appendix A provides a detailed explanation of the public involvement process and this survey.

There is strong support for construction of intermittent passing lanes on SR 507 between Tenino and Rainier with 61% indicating that they are 'Very Likely' and 21% indicating that they are 'Somewhat Likely' to support this strategy.

3.4 Town of Rainier

This segment of State Route 507 is 1.11 miles in length. It begins at the west limit of the Town of Rainier at milepost 22.20 and ends at the east end of town at milepost 23.31.

Highway Capacity and Access Management

The Steering Committee recognized the need for both short and long term capacity improvements for the Town of Rainier. **The Committee felt that providing a center two-way left-turn lane from Minnesota Street to the vicinity of 133rd Avenue** would offer short term capacity improvements on SR 507 through the Town of Rainier. The Committee also recognized that **the long term solution based on the anticipated growth and associated increase to traffic volumes would be the development of a one-way couplet**. This concurs with the Town of Rainier's *1995 Comprehensive Plan*. That plan recommends using SR 507 and Rochester Street beginning at Minnesota Avenue and ending in the vicinity of California Avenue. In addition, the intersection with Center Street is used heavily by trucks and may benefit from turning radius improvements.

The Steering Committee also identified the need to emphasize travel demand management (TDM) strategies such as encouraging people to walk, bicycle, carpool or use existing and future transit options to help offset the inevitable increase in traffic volumes along this segment of SR 507.

The Steering Committee concurred that the present Access Management Plan Class 4 designation (see table 1.4-1) is sensible for this segment of SR 507.

Non-Motorized Transportation

The Steering Committee recommends construction of sidewalks in areas of school walk zones along SR 507 in Rainier. Specifically the right side of SR 507 in the area of the grade schools from Minnesota Avenue to Michigan Avenue to provide a walking route for school children.

Public Transportation

Intercity Transit provided the Committee with a listing of transit stops that would benefit from constructing asphalt or concrete pads to accommodate the wheel chair lifts on transit buses. Intercity Transit suggests that a wheelchair pad be constructed at Dakota Avenue in front of the Chevron Station.

The Town of Rainier currently owns a lot one block off of SR 507 that it would like to develop into a park-and-ride lot. The Steering Committee recommends that the Town of Rainier, Intercity Transit and WSDOT work together in a cooperative effort to develop this facility.

Highway Safety and Recommended Design Speed

The "street-like" characteristics of this segment with its closely spaced intersections and slower speeds make a design speed recommendation for this segment unnecessary. With a posted speed limit of **30** mph through most of the town, the existing geometrics are more than adequate for this route segment. Table 3.13-1 provides a complete listing of the recommended design speeds for each segment of SR 507.

Safety issues on all state routes are addressed through the WSDOT's Safety Program (I-2). Chapter 3.13 offers a more detailed explanation of this program. In addition, the *WSDOT State Highway System Plan* contains a listing of the current 20 year safety improvement strategies for SR 507.

Justifications for Recommendations

Highway Capacity

State Route 507 through the Town of Rainier is currently operating at a LOS D during the peak hours. Based on the current projected growth rate for this area, it is anticipated that by the year 2016 this segment of highway will be operating at a LOS E.

Public Transportation

A park-and-ride study prepared for Intercity Transit by JHK & Associates in 1995 contains recommendations for several new potential locations of park-and-ride facilities by the year 2000. These locations include 30 spaces in the Town of Rainier. The 1992 draft *Thurston Regional Transportation Plan* also shows the need for park-and-ride facilities in Rainier. Intercity Transit intends to apply for grants to study other possible park-and-ride locations along SR 507.

Steering Committee Objectives and Alternatives

Appendix B contains objective statements and generic alternatives that were developed by the Steering Committee to address issues relating to mobility, safety, transit, travel demand management and social & economic impacts. Many of those objectives and alternatives will be satisfied with the completion of the Steering Committee recommendations.

Public Opinion

The WSDOT, using the services of Pacific Rim Resources, conducted a public opinion survey to gain the public's opinion on the steering committee's proposed improvement strategies that were developed for State Route 507. Appendix A provides a detailed explanation of the public involvement process and this survey.

Respondents who were familiar with SR 507 between the Lewis County line and the City of Yelm were asked how likely they would be to support construction of a couplet through the Town of Rainier. Approximately two-thirds (65%) of the respondents stated that they are 'Very Likely' (39%) or 'somewhat likely' (26%) to support construction of a couplet. However, there is a fairly significant level of opposition, with 25% indicating that they are 'Very Unlikely' to support the strategy and 10% stating that they are 'Somewhat Unlikely' to do so.

Few respondents expressed an interest in using a future park-and-ride lot in Rainier with 93% of the respondents indicating that they would not use one at all. Of the remaining respondents, 5% indicated that they would use a park-and-ride lot 1 to 2 times per week and 2% indicated that they would use it 3 or more times per week.

3.5 Town of Rainier to City of Yelm

This segment of SR 507 is 4.01 miles in length. It begins at the east city limit of Rainier at milepost 23.31 and ends at the west city limit of Yelm at milepost 27.32. This segment of highway has a posted speed limit of 55 mph and is rural in character.

Highway Capacity and Access Management

Based on the projected future traffic volume for this segment of SR 507, **the Steering Committee recommends that intermittent passing lanes be constructed when warranted** to accommodate the future increase in traffic volumes. The addition of a third and fourth lane on SR 507 may become necessary as traffic volumes increase.

The Committee also suggests that improvements to the Manke/Koeppen Road intersection could be in the form of channelization when warranted.

The Steering Committee also identified the need to emphasize travel demand management (TDM) strategies such as encouraging people to walk, bicycle, carpool or use existing and future transit options to help offset the inevitable increase in traffic volumes along this segment of SR 507.

The Steering Committee concurred that the present Access Management Plan Class 2 designation (see table 1.4-1) is sensible for this segment of SR 507.

Public Transportation

Intercity Transit provided the Steering Committee with a listing of suggested improvements for existing and proposed transit stops. For this segment, based on the public's request to Intercity Transit, the need to create a paved pull-out at Koeppen Road (MP 24.25) was identified. Presently, this is a proposed transit stop.

Highway Safety and Recommended Design Speed

Future highway improvement projects will be designed according to WSDOT design standards, which are based in part on design speeds. As part of this Route Development Planning effort, WSDOT staff analyzed SR 507 in order to determine and recommend a design speed. For this section of SR 507 a design speed of **60** miles per hour is recommended. This design speed recommendation, in conjunction with the WSDOT Safety Program, will allow WSDOT design staff to address what the highway design standards should be.

Table 3.13-1 provides a complete listing of the recommended design speeds for each segment of SR 507.

Program (I-2). Chapter 3.13 offers a more detailed explanation of this program. In addition, the *WSDOT State Highway System Plan* contains a listing of the current 20 year safety improvement strategies for SR 507.

Justifications for Recommendations

Highway Capacity

The present Level of Service (LOS) for this segment of SR 507 is currently operating at a LOS D. Future projected growth rates indicate this will continue to decline to a LOS E at or before the year 2016. In addition, passing opportunities are limited due to the vertical and horizontal alignment. If intermittent passing lanes were constructed, it is predicted that an acceptable level of service would be realized from those improvements through the planning horizon of 2016. This strategy is also presented in Thurston Regional Planning Council's *Trans Action 2020,* 1997 Regional Transportation Plan Update.

The City of Yelm is currently developing an alignment for their Y-2 southern bypass. Their traffic analysis indicates that a four lane roadway will be warranted on SR 507 as it approaches the City of Yelm at or before the year 2020.

The intersection of Manke/Koeppen Road and SR 507 may require some form of channelization in the future when warranted. Manke Road is often used as a short-cut to the Rainier Road which runs north to Olympia from Rainier. In addition, Manke Road also serves several industrial sites which contribute to traffic volumes and inhibit traffic flow on SR 507 as these vehicles enter and exit SR 507.

Non-Motorized Transportation

In 1993, WSDOT granted Thurston County $200,000 to purchase the recently abandoned Yelm to Tenino rail corridor from the Burlington Northern Railroad. The intent of the WSDOT grant was to preserve this corridor for future rail use including possible high-speed passenger trains and freight rail. While Thurston County owns the corridor, WSDOT has a continuing contingent interest and any modification to the corridor must be approved by WSDOT. Currently, the corridor is managed and maintained as an interim hiking trail by Thurston County Parks and Recreation.

Steering Committee Objectives and Alternatives

Appendix B contains objective statements and generic alternatives that were developed by the Steering Committee to address issues relating to mobility, safety, transit, travel demand management and social & economic impacts. Many of those objectives and alternatives will be satisfied with the completion of the Steering Committee recommendations.

Public Opinion

The WSDOT, using the services of Pacific Rim Resources, conducted a public opinion survey to gain the public's opinion on the steering committee's proposed improvement strategies that were developed for State Route 507. Appendix A provides a detailed explanation of the public involvement process and this survey.

There is strong support for construction of intermittent passing lanes between Rainier and Yelm with 61% indicating that they are 'Very Likely' and 21% indicating that they are 'Somewhat Likely' to support this strategy.

3.6 City of Yelm

This highway segment begins at the southwest city limit of Yelm at mile post 27.32. The highway traverses northeasterly into Yelm's commercial district were a traffic signal controls traffic movements at the junction with SR 510. SR 507 then proceeds in a southeast and the east direction to the City's east limit at milepost 29.23.

Highway Capacity and Access Management

The Steering Committee supports construction of the City of Yelm's Y-2 and Y-3 Alternatives to achieve the level of service the City of Yelm is striving for.

The Steering Committee recommends short term improvements to SR 507 (Yelm Avenue) in the form of left turn channelization or a two-way left-turn lane when warranted.

The junction with SR 510 was identified as needing turning radius improvements for large wheel base trucks. However, the Committee recognized that due to the close proximity of existing businesses and the potential construction of the Y-2 and Y-3 Alternatives, this may not be a practical improvement.

The Steering Committee also identified the need to emphasize travel demand management (TDM) strategies such as encouraging people to walk, bicycle, carpool or use existing and future transit options to help offset the inevitable increase in traffic volumes along this segment of SR 507.

The Steering Committee concurred that the present Access Management Plan Classifications (see table 1.4-1) are sensible for this segment of SR 507. In addition, the Steering Committee recommends that Yelm's proposed Y-2 Southern Bypass Alternative be constructed as a Limited Access facility.

Non-Motorized Transportation

The Steering Committee recommends that crosswalks and sidewalks be constructed in areas of school walk zones. This would reduce the number of school bus related delays to traffic during the peak hours by providing school children walking routes to the schools and reducing the number of bus stops on SR 507.

Public Transportation

Intercity Transit provided the Committee with a listing of transit stops that would benefit from constructing concrete pads to accommodate the wheel chair lifts on transit buses. Intercity Transit recommends construction of a concrete pad for both transit stops at Mosman Avenue. The Steering Committee recommends that all transit stops have covered shelters.

The Committee also recommends that transit vehicles are given preference at traffic signals in order to improve their efficiency through Yelm. Preemption of signals for transit buses is recommended after the Y-2 and Y-3 Alternatives are built.

Highway Safety and Recommended Design Speed

The "street-like" characteristics of this segment with its closely spaced intersections and slower speed make a design speed recommendation for this segment unnecessary. With a posted speed limit of **25-35** mph within the city limits, the existing geometrics are adequate for this route segment.

A design speed of **50-60** mph is recommended for the proposed Y-2 southern bypass in Yelm. This design speed, in conjunction with being a limited access facility, will provide motorists with route continuity and improved mobility through the Yelm area. Table 3.13-1 provides a complete listing of the recommended design speeds for each segment of SR 507.

Safety issues on all state routes are addressed through the WSDOT's Safety Program (I-2). Chapter 3.13 offers a more detailed explanation of this program. In addition, the *WSDOT State Highway System Plan* contains a listing of the current 20 year safety improvement strategies for SR 507.

Justifications for Recommendations

Highway Capacity

SR 507 also known as Yelm Avenue through the City of Yelm, is currently the only arterial serving motorists traveling through the City of Yelm. The City has been experiencing constant growth for many years now with traffic volumes continually increasing. If no capacity improvements are made, this segment of the highway which is currently operating at a Level of Service E during the peak hour will deteriorate to a LOS F at or before the year 2016.

The City of Yelm is currently developing both a southern bypass route (Y-2 Alternative) and a northern bypass route (Y-3 Alternative) along with several other transportation improvements to help mitigate some of the congestion the city is currently experiencing. This Y-2 Alternative would direct through traffic on SR 507 in an easterly direction (south of Yelm's central business district). The Y-3 Bypass would provide an alternative route north of Yelm for vehicles traveling between the Olympia/Lacey area and Pierce County. Presently, the Y-2 bypass would connect back with SR 507 in the vicinity of Grove Road which would be the approximate terminus of the northern bypass (Y-3). Both the Y-2 and Y-3 Alternatives are essential elements in mitigating the current and future congestion problems in Yelm.

The Y-2 Alternative would initially be constructed as a two-lane roadway with sufficient right of way acquired for an ultimate multi-lane facility. It is predicted that when constructed, this Y-2 Alternative could eventually become a new section of SR 507 with the old section of SR 507 traveling through town turned back to the city. The City of Yelm is currently performing a corridor study on the Y-2 Alternative in order to identify an alignment and acquire right-of-way before additional development along that corridor limits the ability to develop a bypass. However, the City anticipates that the Y-3 Alternative would be constructed first primarily due to that alignment following existing roads through a relatively rural area resulting in lower right-of-way acquisition costs than the Y-2 Alternative. The City of Yelm predicts that together, both of these bypasses would meet the needs of that City's forecasted growth for the next 20 years.

If neither of these alternatives is built, additional through lanes would need to be considered for SR 507 (Yelm Ave.). However, these additional lanes would probably eliminate much of the on-street parking that currently exists along SR 507 through the City of Yelm.

Non-Motorized Transportation

The Steering Committee identified the need to reduce school bus related delays to traffic on SR 507 in the vicinity of the schools. Yelm has three schools all within one mile of SR 507. Additional sidewalks in the areas of grade schools would provide children with walk routes and reduce the number of school bus related delays on SR 507.

The City of Yelm's proposed Y-2 bypass will include bike paths and pedestrian walkways that would eventually connect with existing and future bicycle and pedestrian facilities within the City's commercial district.

Public Transportation

A park-and-ride study prepared for Intercity Transit by JHK & Associates in 1995 contains recommendations for several new potential locations of park-and-ride facilities by the year 2000. These locations include 58 spaces in the City of Yelm. The 1992 draft *Thurston Regional Transportation Plan* also shows the need for park-and-ride facilities in Yelm. Intercity transit is currently applying for a grant to study possible locations for a park-and-ride facility in the City of Yelm. They also intend to apply for additional grants in the future to study other possible park-and-ride locations along SR 507.

Steering Committee Objectives and Alternatives

Appendix B contains objective statements and generic alternatives that were developed by the Steering Committee to address issues relating to mobility, safety, transit, travel demand management and social & economic impacts. Many of those objectives and alternatives will be satisfied with the completion of the Steering Committee recommendations.

Public Opinion

The WSDOT, using the services of Pacific Rim Resources, conducted a public opinion survey to gain the public's opinion on the steering committee's proposed improvement strategies that were developed for State Route 507. Appendix A provides a detailed explanation of the public involvement process and this survey.

Results of the survey indicated strong support for constructing a bypass running south of Yelm, with 62% of the respondents indicating that they are 'Very Likely' to support the strategy and 22% indicate that they are "Somewhat Likely' to support the strategy.

Consistent with this level of support, 68% indicated that they would be 'Very Likely' to use the bypass with 16% of the respondents indicating that they would be 'Somewhat Likely' to use the bypass.

Regarding the type of bypass, 78% preferred a bypass serving both regional and local traffic while 16% indicated that it should be a true bypass serving traffic traveling through Yelm. The remaining 6% of the respondents preferred that no bypass be constructed.

When asked about a proposed inter-county transit connection linking Intercity Transit and Pierce Transit, three out of four respondents (75%) indicated that they would be 'Very Unlikely' to use the connection. The majority (92%) of respondents indicated that they would not use a park-and-ride lot in Yelm.

3.7 City of Yelm To City of Roy

This segment of State Route 507 is 5.96 miles in length. It begins at the east city limit of Yelm at milepost 29.23 in Thurston County, proceeds through the community of McKenna, and ends at the south city limit of Roy at milepost 35.19 in Pierce County.

Highway Capacity and Access Management

Due to the differing roadway environments along this section of SR 507, the following two separate recommendations for capacity improvements are presented.

McKenna Area: Construct a Four Lane Facility with a Center Two-Way Left-Turn Lane

For the segment from the City of Yelm through the community of McKenna, the Steering Committee believes that additional capacity improvements should come in the form of a four lane facility with a center two-way left turn lane. This recommendation allows for continued travel through the community, while maintaining access to local businesses and other land uses. The Steering Committee concurred that the present Access Management Plan Classification (see table 1.4-1) is reasonable for this segment of SR 507.

McKenna to Roy: Construct a Four Lane Facility with Concrete Median Barrier

This section of SR 507 should continue to play an important regional role in moving people and goods at reasonable speeds, emphasizing mobility over access to adjacent land uses.

Between the communities of McKenna and Roy, capacity improvements should be in the form of one additional through lane each direction, creating a four lane highway. The Steering Committee feels that an essential part of this recommendation includes maintaining the Access Management Plan Class 2 designation and applying roadway designs that are compatible with that designation. This means that when the recommended additional lanes are constructed, a median barrier should also be provided to separate opposing lanes of travel.

The Intent of the Median Barrier

Based on the highway functional class, the expectations and projected volumes of users, the rural land use, and the Access Management Plan Class 2 designation, this section of SR 507 should continue to function as a high speed facility. There are several reasons for median barrier use on high speed, multi-lane highways. The intent of the median barrier as recommended here is to provide physical protection between opposing lanes of travel, reducing the likelihood of head-on collisions. Additionally, a median barrier along this segment of SR 507 will function to confine left turning access to major public road intersections where full access intersections will be provided to make turning or crossing maneuvers. By allowing several of these full access intersections, access to land uses will still be allowed, but to a more limited degree. It is important that the recommended additional lanes and median barrier are viewed as one strategy to allow increased flow of traffic through this section. This overall recommendation will limit the number of possible turning vehicle conflicts.

Probable Concerns Related to Placement of Median Barrier

Since this section of SR 507 is currently a two-lane highway, some motorists have undoubtedly become accustomed to making left turns onto and off of the highway, virtually anywhere they desire in this section, be it a private driveway or a public road.

The implementation of the mobility and access recommendation will create potential to alter this driver expectancy of turning opportunities. With the construction of another lane each direction, a noticeable change drivers will experience will be the inclusion of a median barrier, limiting their abilities to turn left except at a few recognized locations. This will cause frustration and inconvenience for some travelers, particularly those who need to access land use, such as residential developments along the route. The issue really becomes one of balancing land use and transportation plans so the two are compatible.

Several public and privately owned intersections fall within this section of SR 507, located between McKenna and Roy. These roadways primarily serve adjacent or nearby residential zoning in Pierce County, with some of the roads, being "dead ends" or "cul-de-sacs", relying entirely on the state highway system to provide access to and from these established low density land uses. It is important to mention here how these land use developments will be serviced in the future, especially after the mobility and access recommendations are implemented.

The following discussion introduces recommended concepts of providing circulation access to the specific *existing* public and private roadways that intersect SR 507 while still providing median barrier through this *Access Management Plan Class 2* section of SR 507. These recommendations are based on current land uses and zoning, access management classification, posted speed limit, and roadway geometrics - *compromises are inevitable.*

- **Begin Median Barrier Vicinity MP 31.50**
  In deciding where to begin the restrictive median when the highway is multi-laned, several issues were considered, including the access management classification, posted speed limit, existing land use and zoning. At milepost 31.26 just north of the junction with State Route 702, the access management classification of the highway changes from a Class 4 to a Class 2, as well as the posted speed limit increasing to 50 mph. A review of Pierce County's land use map, dated 7/31/96, identifies the McKenna area to have a land use designation of Rural Activity Center. Zoning beyond this area is designated by Pierce County as Rural 10. In recent years, development of land adjacent to the highway has increased noticeably and has extended into the northern portion of that Rural Activity Center land use designation.

  This Route Development Plan recommends that the beginning of this of Class 2 highway segment not restrict left turning movements through the use of median barrier. However, use of median barrier is recommended for the remainder of this highway segment, beginning in the vicinity of milepost 31.50, which is the approximate northern limit of Pierce County's Rural Activity Center land use designation.

- **Whitewater Estates MP 32.05 Left**
  This **private roadway** serves the residential development known as Whitewater Estates on the left (west) side of SR 507. The distance between this intersection and 336th Street South, a significant county arterial, is only 0.08 mile which is far less than the desirable minimum one half mile distance between intersections. Therefore, it **is recommended that this development not have a full access intersection when the highway is multi-laned and median barrier is introduced.** This means that Whitewater Estates should be reduced to right-in, right-out turning movements at it's intersection with SR 507. For those residents in Whitewater Estates wishing to travel north toward Roy, they first must travel south 0.55 mile to the approximate beginning of the median barrier where an opportunity to make a U-turn to the north would be provided. For those motorists traveling north and wanting to turn left into Whitewater Estates, a U-turn opportunity should be provided 0.08 mile

further at 336th Street South were a full access intersection is recommended.

- **336th Street South MP 32.13 Right**
  This **county road,** part of a network of roads serving a rural area of Pierce County to the east of SR 507 **should remain fully accessible to vehicles turning left or right.** This full access "tee" intersection would provide the ability for vehicles traveling south on SR 507 from Roy, to make a left turn onto 336th Street South. In addition, vehicles traveling west on 336th Street South wishing to travel south on SR 507 to also be able to make a left turn.

- **320th Street South MP 33.14 Right**
  As with 336th Street South, this **county road** is also part of the same network of roads serving rural Pierce County to the east of SR 507. **This "tee" intersection should remain a full access intersection when this segment of SR 507 is multi-laned and median barrier is constructed.** This intersection spacing is acceptable based on the minimum one half mile or greater intersection spacing criteria found in the *Access Management Plan* Class 2 description.

- **312th Street South MP 33.66 Right**
  This private road should be limited to right-in, right-out only turning movements. This will result in some inconvenience for those motorists wishing to travel south on SR 507, but must first travel 0.30 miles north to a county road where a U-turn opportunity would be provided. In addition, those southbound motorists wanting to turn left onto 312th must first continue south 0.52 miles to 320th Street South where the ability to make a U-turn would also be provided. It should be noted that there is currently a private drive running north from 312th Street South that parallels SR 507 to the east. This road could be improved to function as a frontage road running north to the next full access intersection at milepost 33.96 which would allow left turns.

- **County Road MP 33.96 Left**
  This **county road** which is also heavily used by Miles Sand & Gravel should **remain a full access intersection** with the ability to accommodate vehicles wishing to make U-turns. The intersection spacing from the previous and to the next full access intersections is acceptable based on the minimum one half mile or greater intersection spacing criteria found in the *Access Management Plan* Class 2 description.

- **End Median Barrier** **Vicinity MP 34.70**
  This recommendation to terminate the median barrier before 295th Street South was based on several factors. The south city limit of Roy is 288th Street South which is also where the access management classification changes to a class 4 and the roadway cross-section changes to a four lane facility with a center two-way left-turn lane. In addition, the posted speed limit is reduced to 35 mph at this location. With only 0.24 mile between 295th and 292nd and another 0.24 mile to 288th, extending the barrier would not have a significant impact on safety since it would actually be creating one more opening in the barrier that can actually be considered as a potential hazard. Furthermore, the roadside character is changing at this point with increased roadside development and road approaches. This last half mile of Class 2 roadway will provide an appropriate transition from the higher speeds and limited turning movements to the slower speeds and more frequent turning movements characteristic of a Class 4 highway.

- **295th Street South** **MP 34.71** **Right**
  This county road serves 60 residential lots known as McKenna Meadows. The access management classification of the highway will remain a Class 2. In the future as traffic volumes increase, this intersection may warrant left turn channelization.

- **292nd Street South** **MP 34.95** **Right**
  This private road serves approximately 83 residential lots known as Oakview Heights. The access management classification of the highway will remain a Class 2. In the future as traffic volumes increase, this intersection may also warrant left turn channelization.

- **288th Street South** **MP 35.19** **Right**
  This intersection is the approximate south city limit of the City of Roy where the roadway cross-section is recommended to change to a four lane roadway with a center two-way left-turn lane and the existing access management classification changes to a class 4.

The Steering Committee also identified the need to emphasize travel demand management (TDM) strategies such as encouraging people to walk, bicycle, carpool or use possible future transit options to help offset the inevitable increase in traffic volumes along this segment of SR 507.

Public Transportation

The Steering Committee encourages Pierce Transit to expand transit service to the Community of McKenna when future demand warrants. The Committee also recommends an inter-county transit connection between Intercity Transit and Pierce Transit and development of a park-and-ride facility with a covered shelter.

Highway Safety and Recommended Design Speed

Future highway improvement projects will be designed according to WSDOT design standards, which are based in part on design speeds. As part of this Route Development Planning effort, WSDOT staff analyzed SR 507 in order to determine and recommend a design speed. For the segment of SR 507 between Yelm and McKenna a design speed of **50** miles per hour is recommended.

Through the community of McKenna, the "street-like" characteristics of this segment with its closely spaced intersections and slower speeds make a design speed recommendation for this segment unnecessary. With a posted speed limit of **35** mph through the community, the existing geometrics are adequate for this route segment.

Finally, between McKenna and Roy the recommended design speed is **60** mph. These design speed recommendations, in conjunction with the WSDOT Safety Program, will allow WSDOT design staff to address what the highway design standards should be. Table 3.13-1 provides a complete listing of the recommended design speeds for each segment of SR 507.

Safety issues on all state routes are addressed through the WSDOT's Safety Program (I-2). Chapter 3.13 offers a more detailed explanation of this program. In addition, the *WSDOT State Highway System Plan* contains a listing of the current 20 year safety improvement strategies for SR 507.

Justifications for Recommendations

Highway Capacity

The present Level of Service (LOS) for this segment of SR 507 is currently operating at a LOS D. Future projected growth rates indicate this segment will continue to decline to between a LOS E and LOS F at or before the year 2016. If additional through lanes were added to this segment of SR 507, the expected level of service would improved to a LOS B through the planning horizon of 2016.

Presently, WSDOT has identified several short range improvement projects for the McKenna area. These include construction of a two-way left-turn lane from Vail Road to SR 702 with intersection safety improvements at Vail Road, and installation of a traffic signal at the junction with SR 702 is currently being constructed with completion scheduled for the summer of 1998.

Public Transportation

The Steering Committee felt that travel demand management (TDM) strategies would be a very important component in mitigating the current capacity deficiencies through this segment of SR 507. However, for the transit component of the TDM strategies to work, transit services must be available for those who would consider using them.

Steering Committee Objectives and Alternatives

Appendix B contains objective statements and generic alternatives that were developed by the Steering Committee to address issues relating to mobility, safety, transit, travel demand, management and social & economic impacts. Many of those objectives and alternatives will be satisfied with the completion of the Steering Committee recommendations.

Public Opinion

The WSDOT, using the services of Pacific Rim Resources, conducted a public opinion survey to gain the public's opinion on the steering committee's proposed improvement strategies that were developed for SR 507. Appendix A provides a detailed explanation of the public involvement process and this survey.

Respondents were asked how likely they would be to support the addition of two general purpose lanes and a center two-way left-turn lane through the community of McKenna. A total of 93% of the respondents support the idea, with 70% 'Very Likely' to support and 23% 'Somewhat Likely' to support it.

There is strong support for the addition of two general purpose lanes with a divided median for the section of SR 507 between McKenna and Roy. While 87% indicated support for this strategy (62% 'Very Likely' to support and 25% 'Somewhat Likely" to support), 14% indicated disfavor with the approach (8% 'Very Unlikely', and 6% 'Somewhat Unlikely').

A significant proportion of respondents indicated that they would be 'Very Unlikely' (72%) or 'Somewhat Unlikely' (8%) to use expanded transit service to the McKenna and Roy area.

When asked about the use of park-and-ride lots in the McKenna-Roy area, 86% of the respondents stated that they 'Wouldn't use it at all'.

3.8 City of Roy

Beginning at the south city limit of the City of Roy at milepost 35.19 and ending at the City's east limit at milepost 36.22, this 1.03 mile long segment traverses through the commercial section of town.

Highway Capacity and Access Management

The Steering Committee discussed three possible alternatives for providing capacity improvements to SR 507 through the City of Roy. **The preferred strategy calls for widening the existing route by providing two additional through lanes with a center two-way left-turn lane.** Other strategies considered by the Steering Committee would be to construct a one-way couplet using SR 507 and a parallel city street, or to develop an alternate route around the city. At the time of this printing, the Steering Committee members representing the City of Roy indicated that the city's preferred alternative is the construction of two additional lanes with a center two-way left-turn lane.

The Steering Committee also identified the need to emphasize travel demand management (TDM) strategies such as encouraging people to walk, bicycle, carpool or use possible future transit options to help offset the inevitable increase in traffic volumes along this segment of SR 507.

The Steering Committee concurred that the present Access Management Plan Class 4 designation (see table 1.4-1) is sensible for this segment of SR 507.

Non-Motorized Transportation

The Steering Committee recommends sidewalk expansion and improvements along SR 507 in this section. At the time of this printing, the City of Roy is pursuing a grant to construct sidewalks along some sections of SR 507. It is suggested that the City coordinate improvements with WSDOT as this grant work progresses.

Public Transportation

The Steering Committee recommends that Pierce Transit expand transit service to the City of Roy when future demand warrants. The Committee also recommends consideration be given to a inter-county transit connection between Intercity Transit and Pierce Transit and development of a park-and-ride facility with a covered shelter.

Lacamas Creek Crossing

The City of Roy expressed concern over the yearly flooding of Lacamas Creek across SR 507 just east of the city. This concern has been forwarded to the Olympic Region Operations Engineer for further investigation. Presently, the creek flows under SR 507 through two large culverts.

Highway Safety and Recommended Design Speed

The "street-like" characteristics of this segment with its closely spaced intersections and slower speeds make a design speed recommendation for this segment unnecessary. With a posted speed limit of **30** mph through most of the city, the existing geometrics are adequate for this route segment. Table 3.13-1 provides a complete listing of the recommended design speeds for each segment of SR 507.

Safety issues on all state routes are addressed through the WSDOT's Safety Program (I-2). Chapter 3.13 offers a more detailed explanation of this program. In addition, the *WSDOT State Highway System Plan* contains a listing of the current 20 year safety improvement strategies for SR 507.

Justifications for Recommendations

Highway Capacity

This segment of SR 507 through the City of Roy is currently experiencing a LOS D. If no improvements are made to this segment, future projected growth rates indicate this will continue to decline to a LOS E at or before the year 2016. Since a specific capacity improvement strategy has not been developed for the City of Roy, it would be difficult to predict the level of service that would be realized without knowing the particular type of improvement. It is assumed however, that any capacity improvement project would provide an increase to the existing level of service.

The City of Roy has suggested that a four-lane roadway with a center two-way left-turn lane would likely be the preferred strategy for their city. The City is currently updating their comprehensive plan. Recommendations from the transportation element of that plan will be incorporated into future revisions to this RDP.

Non-Motorized Transportation

Due to the lack of a complete sidewalk system and the close proximity of the elementary school to SR 507, sidewalk expansion and improvements are recommended. A large portion of the community is located on the opposite side of the highway as the school. This recommended improvement will offer pedestrians an improved travel condition. At the time of printing, the City of Roy has started preliminary planning for sidewalks within the city limits.

Public Transportation

In order for the transit component of the TDM strategies to work, transit services must be available for those who would consider using them. It is hoped that Pierce Transit will expand its services to the City of Roy when demand warrants and funding is available.

Steering Committee Objectives and Alternatives

Appendix B contains objective statements and generic alternatives that were developed by the Steering Committee to address issues relating to mobility, safety, transit, travel demand management and social & economic impacts. Many of those objectives and alternatives will be satisfied with the completion of the Steering Committee recommendations.

Public Opinion

The WSDOT, using the services of Pacific Rim Resources, conducted a public opinion survey to gain the public's opinion on the steering committee's proposed improvement strategies that were developed for State Route 507. Appendix A provides a detailed explanation of the public involvement process and this survey.

Respondents were asked about their level of support for various strategies to improve traffic flow through the City of Roy. Constructing an alternate route is favored by 47% of the respondents while 26% prefer to widen the existing roadway with two additional general purpose lanes. The construction of a couplet is the preferred alternative for 17% of the respondents while 10% recommended no capacity improvements for the City of Roy.

A significant proportion of respondents indicated that they would be 'Very Unlikely' (72%) or 'Somewhat Unlikely' (8%) to use expanded transit service to the Roy and McKenna area.

When asked about the use of park-and-ride lots in the Roy and McKenna area, 86% of the respondents stated that they 'Wouldn't use it at all'.

3.9 City of Roy to SR 7

This final segment of SR 507 begins at the Roy east city limit at milepost 36.22 and ends at the junction with SR 7 at milepost 43.57. This segment is bordered by the Fort Lewis Military Reservation on both sides for almost its entire length.

Highway Capacity and Access Management

The Steering Committee determined that as traffic volumes increase, future capacity improvements will be warranted for this high speed section of SR 507. **The steering Committee recommends that these improvements should be in the form of one additional through lane each direction, creating a four lane facility with opposing traffic separated by a depressed soil median.** The intent of the depressed median would not only be to provide positive protection for opposing vehicles but also to confine left turning access to major public road intersections. This will reduce the number of possible turning vehicle conflicts and increase overall capacity, while balancing the needs to provide left turn access to abutting land.

In conjunction with the multi-laning recommendation, at some point in the future when warranted, the Steering Committee recommends that the WSDOT partner with Fort Lewis to develop a highway crossing plan for their troops and equipment. This could be in the form of a troop-activated signal crossing, over- or undercrossing or some other method of crossing the highway.

The Intent of the Depressed Soil Median

Based on the highway functional class, the expectations and projected volumes of users, and the Access Management Plan Class 2 designation, this section of SR 507 should continue to function as a high speed facility. There are several reasons for a depressed soil median on high speed, multi-lane highways. The intent of the soil median as recommended here is to provide physical protection between opposing lanes of travel, reducing the likelihood of head-on collisions. Additionally, a soil median along this segment of SR 507 will function to confine left turning access to major public and military road intersections where full access intersections will be provided to make turning or crossing maneuvers. By allowing several of these full access intersections, access to land uses will still be allowed, but to a more limited degree. This is particularly true for Fort Lewis who is the principal land owner along this segment of SR 507. It is important that the recommended additional lanes and soil median are viewed as one strategy to allow increased flow of traffic through this section. This overall recommendation will limit the number of possible turning vehicle conflicts.

The following discussion introduces recommended concepts of providing circulation access to the specific *existing* public, and military roadways that intersect this segment of SR 507 while still providing positive separation of traffic through this *Access Management Plan* Class 2 section of SR 507.

- **Fort Lewis Access Road MP 39.04 Lt. & Rt.**
  This gravel road is heavily used by Fort Lewis as a primary crossing point on SR 507, and is also known as their "tank crossing". SR 507 at this location has been reinforced with concrete to structurally support tanks and other heavy vehicles crossing the highway. **It is recommended that this remain a full access intersection.** This full access intersection would also serve as a opportunity for travelers to make a U-turn (see section 910 of the WSDOT Design Manual). The next full access intersection which would offer a U-turn opportunity would be 0.55 miles to the north or 2.04 miles to the south. This intersection spacing is acceptable based on the minimum one half mile or greater intersection spacing criteria found in the *Access Management Plan* Class 2 description.

- **East Gate Road MP 39.59 Lt. & Rt.**
  This heavily used road is one of the main entrances into the Ft. Lewis military installation. **It is recommended that this remain a full access intersection providing vehicles with both left and right turning options.** This full access intersection would also serve as a opportunity for motorist to make a U-turn (see section 910 of the WSDOT Design Manual). The next full access intersection which would offer a U-turn opportunity would be 2.84 miles to the north at 208th Street South or 0.55 miles to the south at the Fort Lewis tank crossing. This intersection spacing is acceptable based on the minimum one half mile or greater intersection spacing criteria found in the *Access Management Plan* Class 2 description.

- **8th Avenue South MP 42.39 Right**
  It is recommended that this county road be re-aligned to intersect with 208th Street E. This recommendation is primarily due to this county road intersecting SR 507 only 0.04 mile before 208th Street E. In addition, both 8th Avenue and 208th Street intersect SR 507 on a horizontal curve. Based on a field review of these intersections, it appears that 208th Street offers the better sight distance of the two. The land between these two county roads is owned by Fort Lewis. Therefore, this re-alignment recommendation would require the involvement of Fort Lewis in this process.

- **208th Street East MP 42.43 Right**
  It is recommend that this remain a full access intersection. In addition, 8th Avenue S. should be re-aligned to intersect with 208th Street E. This will eliminate having two county road approaches within 0.04 mile of each other, bringing these intersections in conformance with the minimum one half mile or greater intersection spacing criteria found in the *Access Management Plan* Class 2 description. Furthermore, motorists approaching SR 507 from 208th Street will also benefit from improved sight distance and the reduction in the number of conflicting traffic movements associated with having two intersections spaced so close together. This full access intersection would also serve as a opportunity for travelers to make a U-turn (see section 910 of the WSDOT Design Manual). The next full access intersection offering a U-turn opportunity would be at the junction with SR 7, 1.14 miles to the north or 2.84 miles to the south at East Gate Rd.

- **Other Fort Lewis Access Roads Left & Right**
  There are a number of gravel roads located along this segment of SR 507 that appear to be frequently used as crossing points by Fort Lewis. The following table contains the approximate location of gravel road approaches, located along SR 507 within the Fort Lewis military reservation, that were observed to have been recently used:

Gravel Road Approaches

MP 37.00	Left & Right
MP 38.27	Left & Right
MP 40.31	Left & Right
MP 41.05	Left & Right
MP 42.56	Left & Right
MP 42.90	Left & Right
MP 43.57	Left & Right

It is recommended that when capacity improvements are considered for this segment of SR 507, discussions take place with Fort Lewis to identify their needs and determine which of the crossing points (or others not identified) should be considered for full access. In addition to the minimum one half mile or greater intersection spacing criteria found in the *Access Management Plan* Class 2 description, designers will need to address the access requirements of Fort Lewis while allowing motorists on SR 507 the opportunity to make a U-turn (see section 910 of the *WSDOT Design Manual*).

The Steering Committee also identified the need to emphasize travel demand management (TDM) strategies such as encouraging people to walk, bicycle, carpool or use possible future transit options to help offset the inevitable increase in traffic volumes along this segment of SR 507.

The Steering Committee concurred that the present Access Management Plan Class 2 designation (see table 1.4-1) is sensible for this segment of SR 507.

Public Transportation

The Steering Committee encourages Pierce Transit to expand transit service to this portion of Pierce County when future demand warrants. The Committee also recommends consideration be given to a inter-county transit connection between Intercity Transit and Pierce Transit.

Highway Safety and Recommended Design Speed

Future highway improvement projects will be designed according to WSDOT design standards, which are based in part on design speeds. As part of this Route Development Planning effort, WSDOT staff analyzed SR 507 in order to determine and recommend a design speed. For this section of SR 507 a design speed of **60** miles per hour is recommended. This design speed recommendation, in conjunction with the WSDOT Safety Program, will allow WSDOT design staff to address what the highway design standards should be. Table 3.13-1 provides a complete listing of the recommended design speeds for each segment of SR 507.

Safety issues on all state routes are addressed through the WSDOT's Safety Program (I-2). Chapter 3.13 offers a more detailed explanation of this program. In addition, the *WSDOT State Highway System Plan* contains a listing of the current 20 year safety improvement strategies for SR 507.

Justifications for Recommendations

Highway Capacity

Presently, this segment of SR 507 is currently experiencing a LOS D. If no improvements are made to this segment, future projected growth rates indicate this segment of highway will continue to decline to a LOS E at or before the year 2016. If additional through lanes were added to this segment of SR 507, the expected level of service would be a LOS A through the planning horizon of 2016.

The Steering Committee's recommendation for a four lane facility separated by a depressed soil median rather than concrete barrier, is primarily due to this section of SR 507 having little development and is bordered by Fort Lewis on both sides for most of its length. It is assumed that the additional right-of-way requirements for a depressed median would have fewer impacts to property owners along this route segment than the remainder of the route.

During the development of this RDP, representatives from the Planning Department of Fort Lewis were contacted for their input on improving the route. The Fort expressed concern for the traveling public and their troops who frequently cross SR 507 both during the day and night as they travel between training areas. They often must stop traffic on SR 507 through the use of flaggers to allow the troops and their vehicles to cross the highway safely. This activity inhibits a smooth traffic flow and creates a potential safety concern since these are often large, dark, camouflaged vehicles with minimal lighting. At the time this RDP was being developed, Fort Lewis was in the process of studying the movements of its troops throughout the installation. Presently, their primary crossing point on SR 507 is at the existing Tank Crossing between Roy and SR 7 at MP 39.04.

Steering Committee Objectives and Alternatives

Appendix B contains objective statements and generic alternatives that were developed by the Steering Committee to address issues relating to mobility, safety, transit, travel demand management and social & economic impacts. Many of those objectives and alternatives will be satisfied with the completion of the Steering Committee recommendations.

Public Opinion

The WSDOT, using the services of Pacific Rim Resources, conducted a public opinion survey to gain the public's opinion on the steering committee's proposed improvement strategies that were developed for State Route 507. Appendix A provides a detailed explanation of the public involvement process and this survey.

There is strong support for the addition of two general purpose lanes with a divided median for the section of SR 507 between Roy and SR 7. While 87% indicated support for this strategy (62% 'Very Likely' to support and 25% 'Somewhat Likely" to support), 14% indicated disfavor with the approach (8% 'Very Unlikely', and 6% 'Somewhat Unlikely').

A significant proportion of respondents indicated that they would be 'Very Unlikely' (72%) or 'Somewhat Unlikely' (8%) to use expanded transit service to the McKenna and Roy area.

When asked about the use of park-and-ride lots in the McKenna-Roy area, 86% of the respondents stated that they 'Wouldn't use it at all'.

3.10 Transportation Demand Management

Transportation demand management (TDM) contains a broad range of strategies intended to reduce and reshape the demand of the transportation system. Such strategies are typically low in cost. Their success depends both upon the active cooperation of the private sector and upon effective decision making by the individuals who use the transportation system. TDM measures can include:

- Carpool or vanpool formation assistance
- Encouraging people to walk or ride a bike
- Transit subsidies
- Worker-driver programs for buses and vanpools
- Designated carpool or vanpool parking
- Parking restrictions such as increased parking prices for single occupancy vehicles
- Work hour flexibility
- Telecommuting

The Route Development Plan Steering Committee did not discuss this issue to the details necessary to prescribe recommendations. There are several possibilities for effective TDM strategies along our state highways, SR 507 included. TDM strategies however, are typically not controlled by WSDOT, but are under the jurisdiction of the local and regional agencies and the private sector. WSDOT does encourage these agencies to implement these "state interest" strategies. Local and regional comprehensive and transportation plans were reviewed during the preparation of this Route Development Plan. All of the plans reviewed discuss strategies related to TDM.

3.11 Traffic Signal Recommendation

This Route Development Plan does not offer recommendations for future signal locations at this time. Any new signal installations whether rural or urban, must first meet the necessary warrants. Proposed installations must compete with other proposed signal locations across the region through a prioritization process.

Future traffic signal locations in rural areas would only occur at significant cross-county road intersections. For these rural areas, traffic signals would not be spaced any closer than one-half mile apart.

In urban areas such as Yelm, any new signal location would be determined through a joint analysis with the City and the WSDOT. Traffic signal locations in an urban area would only be at main city streets that are part of that City's grid system. For urban areas, signal spacing would not be closer than one-quarter mile apart.

3.12 Non-motorized Facilities

The Route Development Steering Committee discussed the needs of non-motorized travelers such as pedestrians and bicyclists resulting in recommended improvements to State Route 507 such as sidewalk improvements and shoulder widening. These types of improvements would likely occur during capacity or safety improvement projects and have been listed in this chapter under the specific highway segments where applicable. The shoulder widening recommendations from this RDP are currently listed in the 1997-2016 *WSDOT State Highway System Plan* under the section *20 Year Economic Initiative Strategies*. In addition, the sidewalk recommendations will most likely be included in the Draft Update to the 1999-2018 WSDOT *Highway System Plan* under the section, *20 Year Pedestrian System Needs.*

Note that State Route 507 is listed as a designated bicycle touring route in the *WSDOT State Highway System Plan* and Thurston County's *1995 Comprehensive Plan*. The Cascade Bicycle Club's touring book also lists SR 507 as a bicycle touring route. In addition, the entire length of SR 507 is part of the route used for the annual Seattle to Portland Bicycle Event which has nearly 10,000 participants each year.

In 1993, WSDOT granted Thurston County $200,000 to purchase the recently abandoned Yelm to Tenino rail corridor from the Burlington Northern Railroad. The intent of the WSDOT grant was to preserve this corridor for future rail use including possible high-speed passenger trains and freight rail. While Thurston County owns the corridor, WSDOT has a continuing contingent interest and any modification to the corridor must be approved by WSDOT. Currently, the corridor is managed and maintained as an interim hiking trail by Thurston County Parks and Recreation.

School Walk Routes

School districts are required by state regulations to have suggested walk route plans for every elementary school (WAC 392-151-025 Route Plans). The "A Guidebook for Student Pedestrian Safety", Final report August 1996, addresses each of the functions involved with school walk routes.

A school walk route plan is the safest of the possible walking routes for students that minimizes exposure to any identified pedestrian safety deficiencies or unsafe walking conditions as determined by the board of directors of a school district.

Minimizing exposure means choosing reasonable walking routes that have the greatest physical separation between walking children and nearby traffic flows, that have the fewest number of road or rail crossings and which expose walking children to the lowest speeds and volumes of moving vehicles. A safe school walk route is not a totally risk-free walking environment.

This Route Development Plan addresses this issue by recommending construction of sidewalks in areas along SR 507 that could be part of these school walk zones.

3.13 Highway Safety and Design Speed

Highway safety is a very important issue for all state routes and WSDOT addresses this issue throughout all programs, including such areas as Maintenance, Preservation, Improvements and Traffic Operations. Here are a few examples, taken from WSDOT's Highway System Plan, of specific Service Objectives and Action Strategies that address Highway Safety:

Maintain state highways on a daily basis to ensure safe...movement of people and goods:

- Provide safe winter travel on highways that remain open to the public.
- Provide safe, reliable roadway surfaces through pavement patching, sealing and surface treatments.
- Maintain visibility of traffic control and safety devices.
- Manage roadside vegetation to meet safety, aesthetic and regulatory requirements.
- Keep existing structures safe and dependable.

Operate the highway transportation system safely and efficiently:

- Increase highway efficiency and safety through full utilization of the existing system.
- Improve arterial efficiency and safety through traffic signal timing and coordination efforts.
- Perform safety and efficiency investigations in response to constituent concerns to identify small cost operational enhancement opportunities.
- Develop and implement small cost, immediate solutions to address identified operational, safety and efficiency concerns.

Preserve the highway infrastructure cost effectively to protect the public investment:

- Repave highways at regular intervals to minimize long-term costs. Restore existing safety features.

Provide the safest possible highways within available resources:

- Improve highway sections that have a high accident history.
- Improve roadways where geometrics, traffic volumes and speed limits indicate a high accident potential.
- Eliminate major at-grade intersections on multi-lane highways with speed limits of 45 mph or higher.
- Construct intersection channelization, signals or both when traffic volume warrants (thresholds) are met.

One function of the Route Development Planning process is to gather data that can support the various ways in which WSDOT addresses highway safety. The Route Development Plan does not make recommendations on specific highway safety improvements. That function is already provided within the *WSDOT State Highway System Plan*, in reference to the examples listed above and through standards that are applied to many types of work that WSDOT performs on state highways. For specific highway safety improvement strategies currently identified over a 20-year projection on SR 507, please see the current *WSDOT State Highway System Plan*.

One specific safety recommendation that the Route Development Plan makes is on design speed. Design speed is defined as the maximum safe maintainable speed over a specific section of highway, when conditions are so favorable that the design features of the highway govern the maximum safe speed. Design speeds are typically higher than the posted speeds along a route. Recommendations on design speed are based principally on terrain, type of highway and traffic volumes as well as economic factors. Recommended design speeds will assist WSDOT in applying appropriate safety standards (for maintenance, preservation, improvements, traffic operations etc.) such as vertical and horizontal alignment and sight distance. Table 3.13-1 provides a listing of the recommended design speeds for SR 507.

Table 3.13-1: Recommended Highway Design Speeds
SR 507 Thurston/Lewis County Line to Jct. SR 7

Highway Segment	Milepost to Milepost	Posted Speed Limit (mph)	Recommended Design Speed (mph)
Lewis Co. Line to Bucoda	5.44 to 9.48	50	50
Town of Bucoda	9.48 to 10.27	35	35
Bucoda to Tenino	10.27 to 13.32	55-45	60
City of Tenino	13.32 to 15.66	30-35	*
Tenino to Rainier	15.66 to 22.20	55	60
Town of Rainier	22.20 to 23.31	30-45	*
Rainier to Yelm	23.31 to 27.32	45-55	60
City of Yelm	27.32 to 29.23	25-35	*
City of Yelm Y-2 Alternative	To be determined	N/A	50-60
Yelm to McKenna	29.23 to 30.67	35-50	50
Community of McKenna	30.67 to 31.31	35	*
McKenna to Roy	31.31 to 35.19	50	60
City of Roy	35.19 to 36.22	30-45	*
Roy to SR 7	36.22 to 43.57	45-55	60

*Highway arterials that have obvious "street-like characteristics, operationally and physically, do not require a design speed determination. In such instances, closely spaced intersections and other operational constraints usually limit vehicular speeds, negating the design speed factor.

3.14 Related Regional Transportation Planning

The Thurston Regional Planning Council is currently developing several strategies to alleviate the growing congestion throughout Thurston County. The majority of these strategies focus on the more urban locations of the county particularly the Olympia, Lacey and Tumwater areas. Various alternatives being considered may include some or all of the following strategies: widening existing roads, constructing new roads that would connect the three cities, expanded transit service, implementing a parking cap for new development, disincentives for driving alone, improve and expand pedestrian and bike routes and consideration of an Interstate 5 bypass.

The City of Yelm is currently developing plans for a number of transportation improvements to its community. One of these, a mobility improvement identified as "Y-2", calls for a southern bypass around the commercial district of Yelm. This bypass would begin southwest of town on SR 507 and traverse easterly through a relatively rural section south of Yelm's central business district then connect back with SR 507 in the vicinity of Grove Road or the railroad undercrossing. Another planned mobility improvement (Y-3), proposed by the City of Yelm is also a bypass. This bypass would begin north of town on SR 510 and would likely intersect SR 507 at the same location that the Y-2 bypass would end. Both of these proposed bypasses would avoid through traffic contributing to increased congestion through the commercial section of town.

As previously mentioned, SR 507 on many occasions has served as an alternative route for motorist on I-5 during serious traffic accidents, flooding or other unforeseen events. Future studies of the I-5 corridor will certainly consider SR 507 as having the potential to mitigate some of the current and future congestion motorist traveling on I-5 experience. Part of a future I-5 corridor study would need to include an Origin and Destination Study to determine if SR 507 would serve as a viable alternative route for motorist.

If greater traffic volumes were added to SR 507, many of the communities it currently passes through would undoubtedly need to be bypassed since widening the existing route would impose significant physical and economic impacts on those predominately rural communities that have built up along and around SR 507.

Another issue that needs to be considered if SR 507 is to receive additional traffic volumes from I-5, is the impacts this would have on SR 7. Currently, SR 7 is a lower speed, high volume, class 3 urban highway in the vicinity of the junction with SR 507. Again, the impacts to Spanaway and Parkland would certainly need to be studied as well as the improvements SR 7 would require to accommodate the added volumes.

The intent of this Route Development Plan was to address those known and anticipated capacity, safety, and economic issues associated with SR 507 based on existing and future land use, traffic volumes as well as input from local and regional representatives. Each of those routes that connect to SR 507 such as I-5, SR 510, SR 702, and SR 7 will each require their own RDP or equivalent study to address those issues unique to each of these highways.

Appendix A Agency and Public Involvement

A.1 Local Agency and Public Involvement

A steering committee was formed to assist the WSDOT Olympic Region Planning Office in the route development planning process. The steering committee is made up of representatives from the City of Tenino, Town of Rainier, City of Yelm and its consultants SCA Engineering and Parametrix Inc., City of Roy, Intercity Transit, Thurston Regional Planning Council, Thurston County Traffic, Fort Lewis Public Works, WSDOT Tumwater Project Office and WSDOT Olympic Region Planning Office. In addition, Pierce County Public Works, Pierce Transit, Tacoma/Pierce County Chamber of Commerce, Puget Sound Regional Council and the Town of Bucoda were all invited to participate in this route development process but elected not to for a variety of reasons.

The Steering Committee provided valuable input to the process, through a series of meetings held between **December 1996** and **June 1997**, ultimately resulting in this "consensus-based" Route Development Plan. Separate executive interviews were also conducted with **Fort Lewis, Intercity Transit, Thurston Regional Planning Council, City of Yelm, City of Tenino, WSDOT Olympic Region Project Development and the WSDOT Olympic Region Traffic Office.** In addition to providing their respective agency's long range plans as they related to SR 507, the Committee established a set of objective and generic alternative statements (see Appendix B) that was used to identify issues and areas of improvement.

A.2 Agency Comprehensive Plans

The transportation and land use elements of the comprehensive plans of the cities, towns and counties surrounding SR 507 were reviewed and compared to each other and to the *WSDOT State Highway System Plan* for concurrence. Other documents such as the Puget Sound Regional Council's *Metropolitan Transportation Plan, May 1996* were also consulted. Note that the transportation plans and the *WSDOT State Highway System Plan* target common goals and objectives. The Steering Committee had taken into consideration the local and regional transportation plans when strategies were proposed to improve the route corridor.

A.3 Public Open Houses

Public open houses were held beginning with the Town of Rainier in April of 1997, followed by the City of Yelm, the City of Tenino and finally at the City of Roy. Three other open houses were held in July and August 1997 to present the RDP and its recommendations. The table at the end of this Appendix shows the different public meetings held in connection with this route development planning process.

A.4 Public and Agency Meetings

The following table summarizes the meetings that took place regarding the Route Development Plan for State Route 507.

SR 507 Route Development Plan Meetings Summary

MEETING	DATE	LOCATION	ATTENDEES
Initial Steering Committee Meeting For SR 507	12/11/96	City of Yelm Council Chambers Yelm, WA	TRPC Fort Lewis Public Works City of Yelm SCA Engineering (Yelm) Thurston County City of Roy Town of Rainier Intercity Transit WSDOT Project Development WSDOT Tumwater PEO WSDOT Planning
Focus Meeting: Military Issues	1/14/97	Fort Lewis Public Works, Fort Lewis	Fort Lewis Public Works WSDOT Planning
WSDOT Olympic Region, Project Developments Vision For SR 507	2/7/97	WSDOT Olympic Region, Tumwater	WSDOT Project Development WSDOT Planning
Focus Meeting Transit Issues	2/11/97	WSDOT Olympic Region, Tumwater	Intercity Transit City of Lacey Planning WSDOT Design WSDOT Planning
Focus Meeting Travel Demand Issues	2/14/97	TRPC, Olympia	TRPC WSDOT Design WSDOT Planning
Focus Meeting Yelm Alternative Route Concepts	2/21/97	Prairie Motel Conference Room, Yelm	City of Yelm SCA Engineering Parametrix WSDOT Planning

SR 507 Route Development Plan Meetings Summary

MEETING	DATE	LOCATION	ATTENDEES
2nd Steering Committee Meeting For SR 507	2/27/97	City of Yelm Council Chambers Yelm, WA	City of Yelm City of Roy Town of Rainier SCA Engineering Fort Lewis Thurston County WSDOT Planning WSDOT Tumwater PEO
Open House - Town of Rainier	3/26/97	Rainier Town Hall	WSDOT Planning
Open House - City of Yelm	3/27/97	Yelm City Council Chambers	WSDOT Planning
Tenino focus meeting	3/31/97	Tenino City Hall	City of Tenino WSDOT Planning
Open House - City of Tenino	4/3/97	Tenino City Hall Council Chambers	WSDOT Planning
Open House - City of Roy	4/7/97	Roy City Council Chambers	WSDOT Planning
3rd Steering Committee Meeting For SR 507	4/16/97	Yelm City Council Chambers	Town of Rainier City of Yelm SCA Engineering City of Tenino Intercity Transit WSDOT Planning WSDOT Tumwater PEO
SR 507 RDP Progress Presentation	5/7/97	Pacific Lutheran University	Tacoma/Pierce County Chamber of Commerce WSDOT
Traffic Issues	5/7/97	WSDOT Planning Office	WSDOT Planning WSDOT Traffic
4th Steering Committee Meeting For SR 507	6/5/97	Yelm City Council Chambers	City of Yelm SCA Engineering City of Roy Town of Bucoda WSDOT Planning WSDOT Tumwater PEO
Draft RDP Presentation	6/28/97	WSDOT Olympic Region Boardroom	Olympic Region Staff Olympia Service Center Staff
Open House with Presentation- City of Yelm	7/29/97	Yelm City Council Chambers	WSDOT Planning
Open House - Town of Rainier	7/31/97	Rainier Town Hall	WSDOT Planning
Open House with Presentation- City of Roy	8-4-97	Roy City Council Chambers	WSDOT Planning
Open House - City of Tenino	8-14-97	Tenino City Hall	WSDOT Planning

A.5 Public Opinion Surveys

Two public opinion surveys were conducted as part of this Route Development Plan. These surveys were developed and approved with input from the Steering Committee members. The first survey asked general questions about SR 507. The results of that survey and the recommended improvement strategies developed by the Steering Committee for SR 507 were used to develop a second survey directed towards the actual users of the highway.

The first survey, conducted in March and April 1997, was distributed to 265 people attending the public open houses held at the Town of Rainier, City of Yelm, City of Tenino and City of Roy. Of those 265 surveys , a total of 108 surveys were completed and returned.

The second public opinion survey was conducted using the services of Pacific Rim Resources. This survey was developed to gain the public's opinion on the Steering Committee's proposed improvement strategies that were developed for State Route 507. To reach the actual users of SR 507, 2,700 vehicle license plate numbers were collected at various locations along the entire route by WSDOT staff on March 20 and 24, 1997. The second public opinion survey was then mailed to the owners of these vehicles.

Included here on the following pages for informational purposes is the SR 507 Public Opinion Survey and Results.

Washington State Department of Transportation Opinion Survey
State Route 507
We Would Like To Hear From You...

Dear Resident:

The Washington State Department of Transportation needs your input. We are researching public opinion on the state of traffic on and around State Route 507 (SR 507), and on possible strategies for addressing traffic concerns. Your responses to this questionnaire will help us to incorporate public opinion into traffic improvement decisions.

The Department of Transportation collected license plate numbers from vehicles using SR 507 in March, 1997 in order to contact actual users of this route to provide us with comments.

Please take a few minutes to complete and return this postage-paid questionnaire. Your confidential response will then be combined with those of other respondents and never associated with your name.

Remember, your responses are important. You are one of a small sample of travelers selected to receive this questionnaire. Even if you rarely use State Route 507, it's important that we hear from you. Thank you for your help. Sincerely,

Gary Demich, Olympic Region Administrator

Thank you for completing this questionnaire. When you have completed it, please fold it to display the business reply address, secure it with tape and mail it back to the Department of Transportation within one week. No postage is necessary.

Q1 Please enter your home zip code: _____.

Q2 How often do you travel on State Route 507 (SR 507)? Please count each one-way trip separately, and check one only

- ☐1 Less than once a week
- ☐2 1 to 2 times per week
- ☐3 3 to 5 times per week
- ☐4 6 to 8 times per week
- ☐5 More than 8 times per week

Q3 What modes of transportation do you typically use on SR 507?

- ☐1 Car or pickup truck
- ☐2 Commercial vehicle
- ☐3 Public Transit
- ☐4 Bicycle or Walk

Q4 Please indicate your typical destination (other than home)

- ☐1 Pierce County
- ☐2 Lewis County
- ☐3 Tumwater
- ☐4 Lacey/Olympia
- ☐5 Yelm
- ☐6 Other (Please write the destination:_____)

Q5 What is your primary reason for using the highway?

- ☐1 Commuting to and from work or school
- ☐2 Shopping and other errands
- ☐3 Other (please indicate):_____

Q6 How important is it to address the following traffic issues related to 507? Please circle how you rate the issues from '1' to '4', where '1' is 'Not Important' and '4' is' Very Important.'

	Not Important			Very Important
1 Congestion on SR 507	1	2	3	4
2 Congestion accessing SR 507 from adjoining streets	1	2	3	4
3 Safety on SR 507	1	2	3	4
4 Safety on access streets	1	2	3	4
5 Safety for walkers, cyclists	1	2	3	4

6 What is the most important issue to address on or around SR 507(please specify):

_____.

Q7 How much more would you take the bus on SR507 if covered shelters and other improvements were provided at transit stops? Please count each one-way trip separately, and check one only

- ☐1 Less than once a week
- ☐2 1 to 2 times per week
- ☐3 3 to 5 times per week
- ☐4 More than 5 times per week

Questions 8 through 13 refer to a specific section of SR 507 that runs from the Lewis County line to the City of Yelm. *If you are not familiar with this section of highway, please skip to Question 14.*

Q8 The following are proposed strategies to solve some of the traffic congestion through the City of Tenino. Which strategy would you be most likely to support?

- ☐1 Widening and adding lanes to the existing road
- ☐2 Construct a couplet (two one-way, two lane roads) using SR 507 and another city street
- ☐3 Constructing an alternate route
- ☐9 No capacity improvements

Q9 **A proposed strategy to address congestion through the town of Rainier is to convert this local segment into a couplet (two one-way, two lane roads) using SR 507 and Rochester Street. How likely are you to support this strategy?**

- ☐1 Very likely
- ☐2 Somewhat likely
- ☐3 Somewhat unlikely
- ☐4 Very unlikely

Q10 **For the sections of highway between Tenino and Yelm, construction of passing lanes along selected segments is proposed. How likely are you to support this strategy?**

- ☐1 Very likely
- ☐2 Somewhat likely
- ☐3 Somewhat unlikely
- ☐4 Very unlikely

Q11 **How likely would you be to use an inter-county transit connection at a location south of Bucoda to link Intercity Transit and Twin Transit?**

- ☐1 Very likely
- ☐2 Somewhat likely
- ☐3 Somewhat unlikely
- ☐4 Very unlikely

Q12 **How often would you use a Park & Ride lot in Tenino?**

- ☐1 1 to 2 times per week
- ☐2 3 or more times per week
- ☐9 I wouldn't use it at all

Q13 **How often would you use a Park & Ride lot in Rainier?**

- ☐1 1 to 2 times per week
- ☐2 3 or more times per week
- ☐9 I wouldn't use it at all

Questions 14 through 19 refer to the section of SR 507 passing through Yelm. ***If you are not familiar with this section of highway, please skip to Question 20.***

Q14 **How often do you use SR507 traveling <u>through</u> Yelm to other destinations? Please count each one-way trip separately, and check <u>one only</u>**

- ☐1 Less than once a week
- ☐2 1 to 2 times per week
- ☐3 3 to 5 times per week
- ☐4 6 to 8 times per week
- ☐5 More than 8 times per week

Q15 **A proposed option to solve some congestion concerns on SR 507 in the Yelm area is a bypass running south of Yelm. How likely would you be to support this option?**

- ☐1 Very likely
- ☐2 Somewhat likely
- ☐3 Somewhat unlikely
- ☐4 Very unlikely

Q16 **If constructed, how likely would you be to use a bypass south of Yelm to avoid congestion?**

- ☐1 Very likely
- ☐2 Somewhat likely
- ☐3 Somewhat unlikely
- ☐4 Very unlikely

PLEASE REFOLD AT THIS LINE AND SEAL

Q17 **Regarding a bypass, which of the following alternatives would you prefer (please choose one):**

- ☐1 A true bypass that provides no direct access to Yelm
- ☐2 A bypass that serves both regional and local traffic as an alternative east-west local arterial
- ☐3 No Bypass

Q18 **How likely would you be to use an inter-county transit connection with Intercity Transit and Pierce Transit?**

- ☐1 Very likely
- ☐2 Somewhat likely
- ☐3 Somewhat unlikely
- ☐4 Very unlikely

Q19 **How often would you be to use a Park & Ride lot if one was added in Yelm**

- ☐1 1 to 2 times per week
- ☐2 3 or more times per week
- ☐9 I wouldn't use it at all

The following questions refer to the section of SR 507 running between Yelm and State Route 7. ***If you are not familiar with this section of highway, please skip this part of the survey.***

Q20 **A proposed way to address congestion problems on SR 507 through the community of McKenna is to add an additional lane in each direction, plus a two-way left turn lane. How likely would you be to support this strategy?**

- ☐1 Very likely
- ☐2 Somewhat likely
- ☐3 Somewhat unlikely
- ☐4 Very unlikely

Q21 **The following are proposed strategies to improve traffic flows through the City of Roy. Which strategy would you be most likely to support?**

- ☐1 Construct an alternate route
- ☐2 Widen the existing route and add lanes
- ☐3 Construct a couplet (two one-way, two lane roads) utilizing SR 507 and another city street
- ☐9 Don't make any improvements

Q22 **For sections of the highway between McKenna and Highway 7, <u>lying outside the City of Roy</u>, construction of additional lanes with a divided median has been proposed. How likely are you to support this strategy?**

- ☐1 Very likely
- ☐2 Somewhat likely
- ☐3 Somewhat unlikely
- ☐4 Very unlikely

Q23 **How likely would you be to use expanded Pierce Transit service to Roy and McKenna if it was provided?**

- ☐1 Very likely
- ☐2 Somewhat likely
- ☐3 Somewhat unlikely
- ☐4 Very unlikely

Q 24 **How frequently would you use a Park & Ride lot if one was constructed in the McKenna - Roy area?**

- ☐1 1 to 2 times per week
- ☐2 3 or more times per week
- ☐9 I wouldn't use it at all

PACIFIC RIM RESOURCES
Public Affairs and Communications

Washington State
Department of Transportation

Transportation Survey Results
State Route 507

28 July 1997

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STATE ROUTE 507 TRANSPORTATION SURVEY

EXECUTIVE SUMMARY AND IMPLICATIONS

Introduction

This report summarizes data gathered through a survey conducted between June 12 and June 25, 1997 with users of Washington State Route 507 ('SR507'). Self-administered surveys were sent to the residences of actual users of this State Route. Users were identified by matching license plate numbers of cars traveling along the route corridor in March of 1997 with the names and addresses of registered vehicle owners. The survey was sent to 2,572 people identified as users of SR507.

A total of 343 completed surveys were returned over a two-week period, a 13.3% response rate.

This survey process is part of a public involvement program being conducted by the Washington State Department of Transportation Olympic Region to get feedback from the public for a corridor planning effort underway. In addition to these surveys, the Department has been guided by the input of an interjurisdictional steering committee and a series of community open houses to familiarize residents and businesses with the purposes of the Corridor Planning effort.

Organization of this Report

This Executive Summary is structured so that it can serve as a stand-alone report and as an introduction to the full report. As such, it includes a summary of data implications and a brief overview of the corridor.

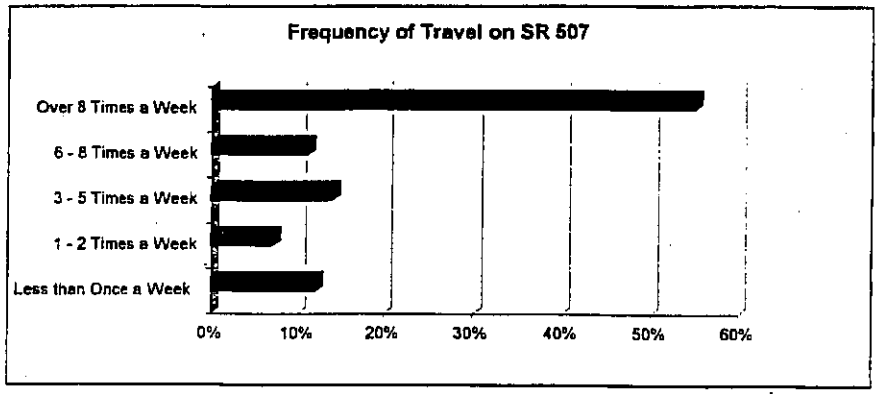
Data Implications

This survey was conducted to obtain a broad assessment of public preferences for potential improvements on the corridor. The questionnaires were structured to respond to the following research questions:

- What are the corridor use patterns?
- What are the important traffic issues related to the state route?
- What is the public's assessment of various suggested strategies for addressing traffic issues?

Corridor Use Patterns

Results indicate that the majority of respondents travel the route over eight times weekly. For the purpose of this report this group is referred to as 'frequent users' or 'commuters'. The majority of the travel is conducted for the purpose of commute to school or work.



Regarding type of travel, the vast majority of those using the corridor typically use personal vehicles ('car or pickup truck') for transportation (98.1% along State Route 507).

Important Traffic Issues

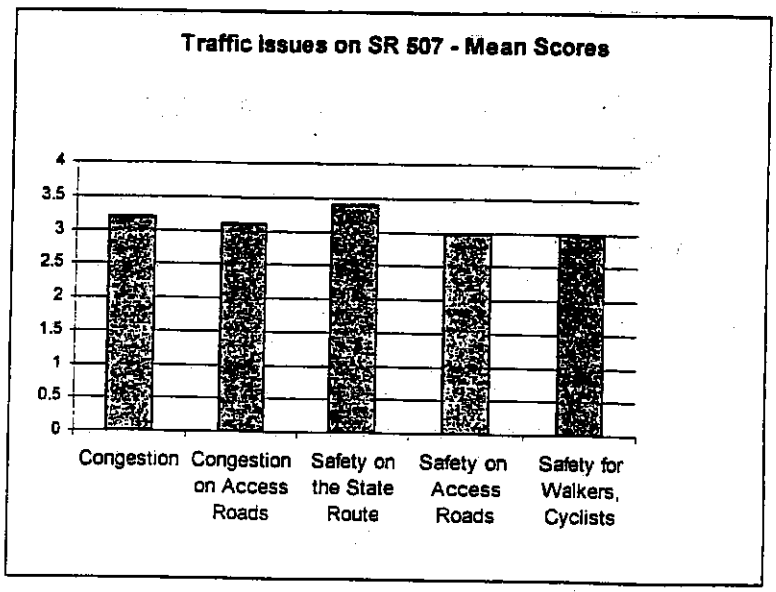
The survey asked respondents to assess the importance of five categories of traffic issues –

- Congestion on the State Route
- Congestion on roads accessing the State Route
- Safety on the State Route
- Safety on State Route Access Roads
- Safety for walkers and cyclists

Respondents rate the level of importance from '1' to '4', where '1' connotes 'Not important' and '4' connotes 'Very Important'. The mean or average score given by respondents is used in the chart below as an indicator of the significance of the various issues.

As the first chart indicates, each of the five issues are considered important by respondents with 'Safety on the State Route' receiving the highest score in each corridor. This was followed closely by 'Congestion on the State Route'.

Specific traffic issues noted by respondents tended to fall into three categories – congestion, safety, maintenance or engineering problems. In-depth discussions of significant traffic issues are found in the corridor-specific section of this report.



Public Assessment of Various Suggested Strategies

To address traffic issues, respondents tend to favor strategies involving engineering or structural changes. A relatively small number support, or are likely to use, enhanced transit services such as increased frequency of bus runs or additional or expanded Park and Ride lots. However, given the relatively large scale of private vehicle use to transit use, even a modest shift away from private ridership and toward additional public transit use could have a significant impact on gross public transit ridership levels.

There tends to be a positive correlation between the level of support of structural traffic improvement strategies and the frequency of corridor use. Frequent users are more likely to be supportive of efforts to both increase safety and reduce congestion. Not surprisingly, support for area-specific strategies are generally more strongly supported by those travelling through those areas.

SR 507 Corridor Survey
DETAILED FINDINGS

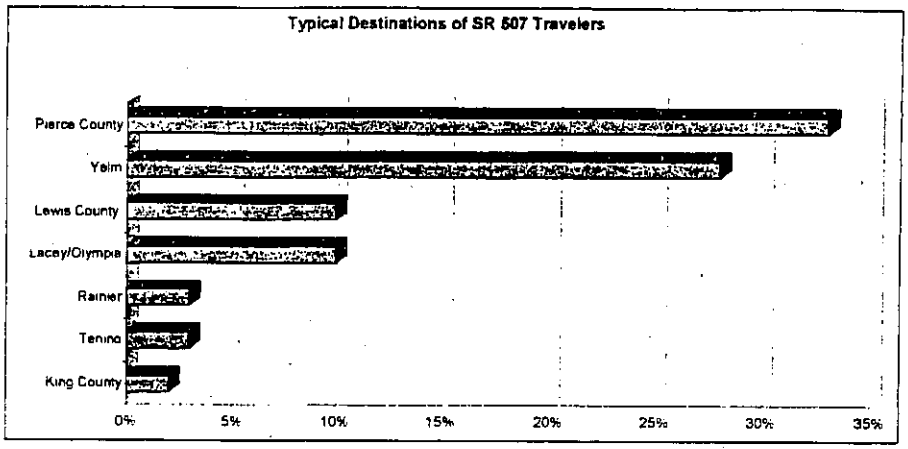
State Route 507 ('SR 507') runs northeast from the City of Centralia, where it intersects with Interstate 5, to State Route 7 south of McChord Air Force Base. This survey focused on SR 507 between the Lewis County line (approximately five miles north of Centralia) and State Route 7.

General Travel And Travel Patterns

Residents were asked the frequency of travel along SR 507 (for the purposes of the survey, they were asked to count one-way trips separately.) The majority of travelers (55%) make more than eight trips weekly along SR 507; this is followed by 14% making trips 3 to 5 times per week and 11% make 6 to 8 trips. Those traveling on SR 507 1 to 2 times per week made up 7% of the respondents. Another 12% report traveling SR 507 less than once per week.

When asked their typical modes of transportation along SR 507 an overwhelming proportion (98%) indicate that travel by car or pickup truck is their typical mode of transportation, followed by commercial vehicle travel (2%).

With regard to destination, 33% indicated that Pierce County is their typical destination, followed by Yelm (28%), Lacey/Olympia (10%) and Lewis County (10%). Other destinations chosen by the remaining respondents include Rainier and Tenino (both at 3%) and King County (2%).



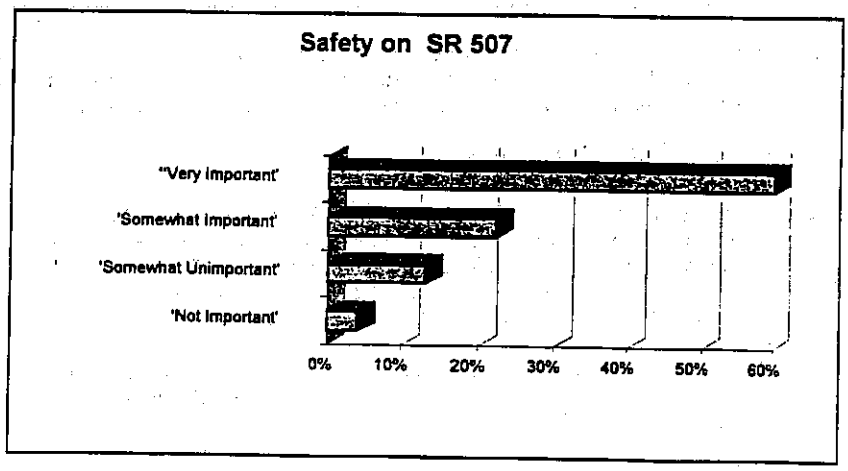
Respondents were asked the primary reason for using SR 507; 46% use it primarily to commute to school or work and 38% use it primarily for shopping and other errands. Other reasons for SR 507 travel include 'Social Visits' with 6% and 'Leisure Activities' with 2%.

Main Traffic Issues

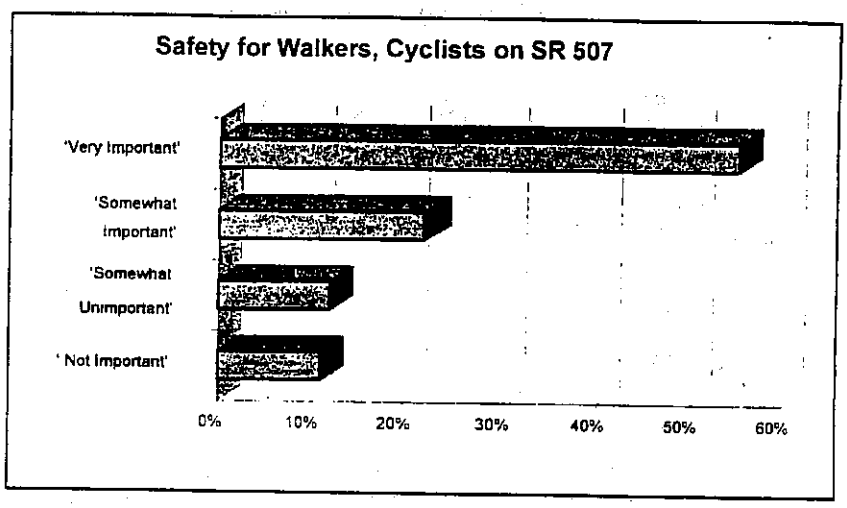
Residents were asked to rate the importance of five issues related to SR 507 and the roads accessing it. Respondents were asked to rate these issues from 1 to 4, with '1' indicating 'Not Important' and '4' indicating 'Very Important'.

Safety on SR 507 is a significant concern for most residents, with 60% providing a rating of '4' ('Very Important') and 22% providing a '3' rating for the importance of addressing safety.

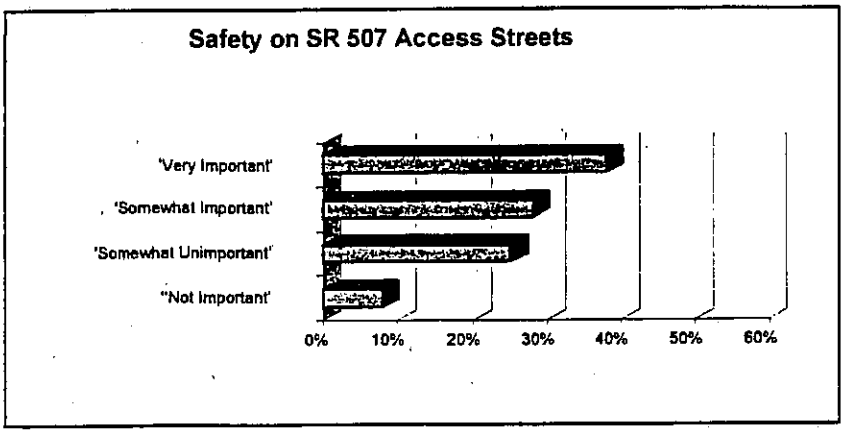
Safety is an increased concern for frequent travelers, with 64% of those using the route eight or more times a week considering it 'Very Important'.



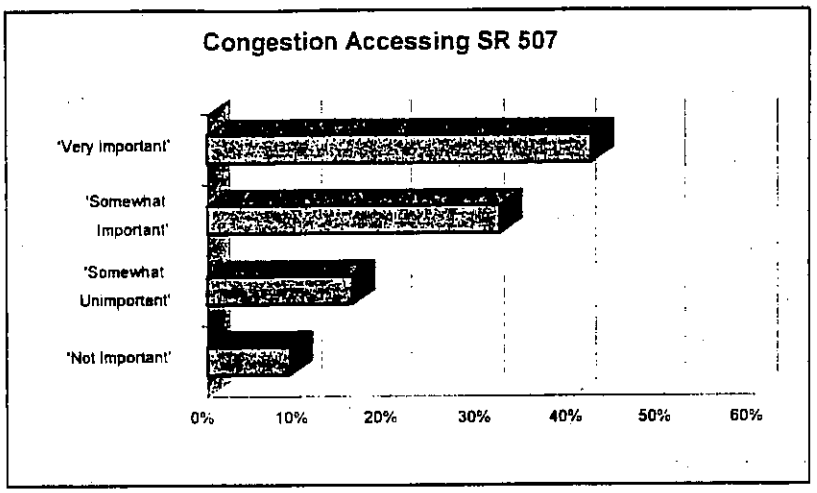
Pedestrian and cyclist safety is also a leading concern, with 49% giving safety for pedestrians and cyclists a '4' rating and 20% giving a '3' rating. The concern is slightly higher for less those using SR 507 three times or less per week, with 56% giving a '4' rating.



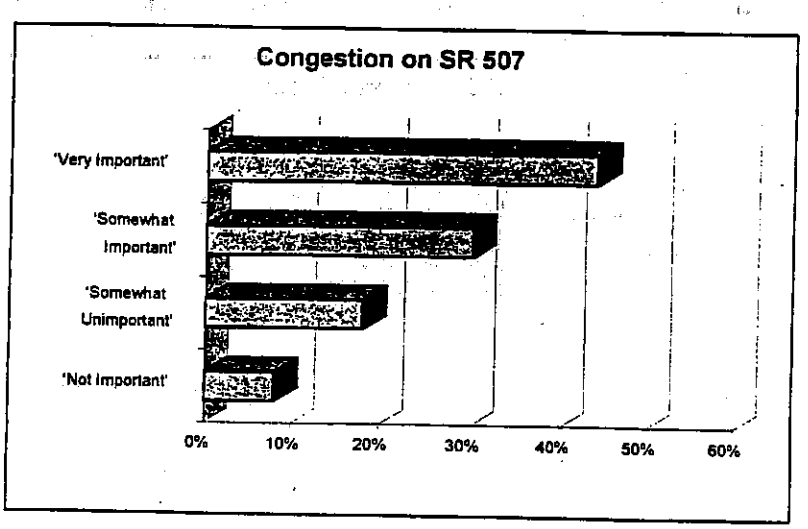
Safety and congestion concerns on access streets were somewhat less of a consideration among respondents. Safety on access streets is identified as important by 38% of the respondents.



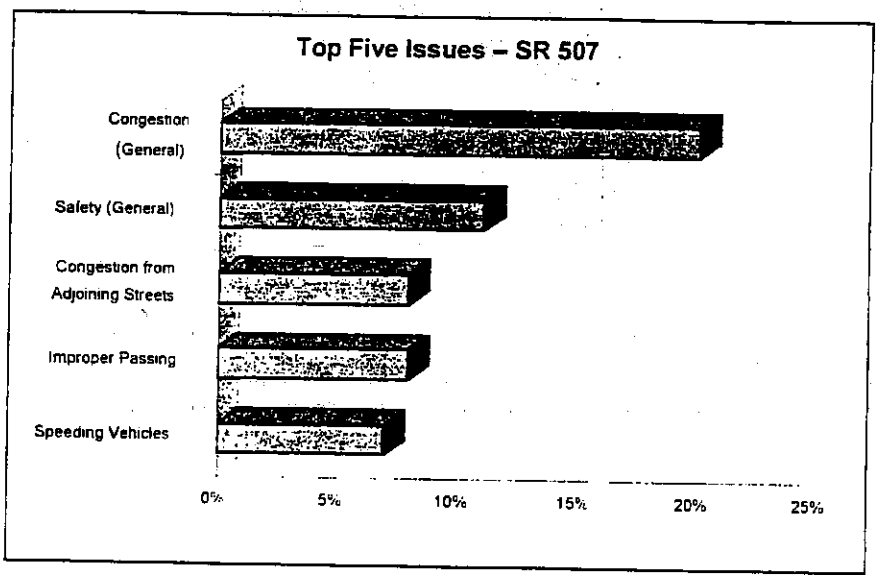
Congestion is also a concern with 42% indicating that addressing congestion on roads accessing SR 507 is 'Very Important'.



Congestion on SR 507 itself appears to be more of a concern, with 49% indicating that it is 'Very Important' to address, and 54% of those traveling the route over eight times a week saying it is 'Very Important' to address.



Respondents were given the opportunity to name the most significant traffic issue to address on or around SR 507. Of the survey respondents, 252 (74%) provided written responses. Of the responses, 47 (21%) identify general congestion SR 507 as the most significant issue while 28 (11%) identify safety as the most significant issue. This is followed by 'Congestion Accessing SR 507 from Adjoining Streets (8%), 'Passing Problems/People Passing Improperly'(8%) and 'Speeders' (7%).



Traffic issues tend to fall into three categories:

- **Congestion** – Forty percent of the respondents suggest congestion as the major traffic problem needing addressing. This includes 20% who identify general congestion as the top issue while 8% identify access congestion, 6% identify congestion in Yelm, and 4% identify congestion on SR 507. Congestion in Roy was chosen by 2% of the respondents as the most important traffic issue.

- **Safety** - 37% suggest safety-related improvements as the most important ones to address. This includes 11% who place general safety as their top concern, 8% who identify 'Passing Problems/Can't Pass/People Passing Improperly' as their top concern, and 7% who identify 'Speeders' as the most important issue to address. Safety on 507 was identified by 4% of respondents as the top traffic issue to be addressed; 4% also chose 'Large Trucks' as the most important traffic issue.

- **Maintenance and Engineering** – Twenty-one percent of the comments concerned maintenance or engineering problems. 'Road Conditions' were selected by 5% as the top traffic issue, while 4% responded that road widening and/or more lanes are needed. City bypasses was chosen by 4% of the respondents as the top issue.

Bus Shelters

Transit stop improvements would apparently have little impact on reducing private vehicle travel on SR 507. Respondents were asked whether they would ride the bus more frequently if covered shelters and other improvements were provided at transit stops. The vast majority (90%) reported that they would increase their transit use by less than one trip per week, while 4% stated that they would increase transit use by one or two trips per week. Of the remaining respondents 3% stated that they would make 3 to 5 more trips per week while 2% indicated that they would make over five trips more per week.

Due to the large proportion of travelers using personal vehicles, even slight percentage shifts away from personal transportation could have significant impacts on public transit ridership.

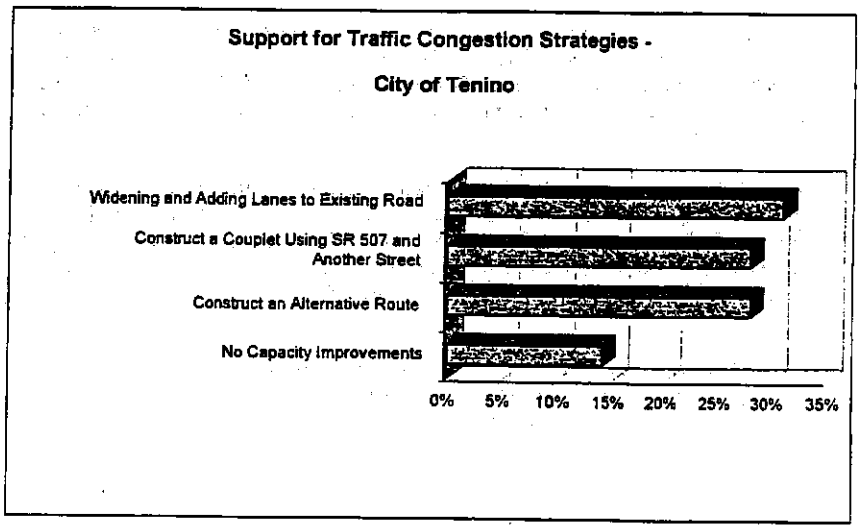
Traffic Congestion Strategies

Participants were asked to comment on possible strategies for addressing traffic congestion along SR 507, ranking for each strategy whether it is one that they are "Very Likely to Support", Somewhat Likely to Support", "Somewhat Unlikely to Support", or "Very Unlikely to Support."

Proposed Strategies for SR 507 from Lewis County line to the City of Yelm

Construction of Additional Lanes

City of Tenino - Respondents who were familiar with SR 507 between the Lewis County line and the City of Yelm were asked about their level of support for various strategies to solve some of the traffic congestion through the City of Tenino. Responses were fairly evenly split between the three suggested improvements, with 31% selecting 'Widening and Adding lanes to the Existing Road', 28% selecting the construction of a couplet (two one-way, two lane roads) using SR 507 and another city street, and 28% selecting construction of an alternate route. The remaining respondents (14%) recommended no capacity improvements for this stretch of highway.



Support for improvements is less for those using SR 507 less frequently, with 22% of those using the route less than three times a week opposed to capacity improvements.

Town of Rainier - Approximately two-thirds (65%) of respondents stated that they are 'Very Likely'(39%) or 'Somewhat Likely'(26%) to support construction of a couplet through the town of Rainier. However, there is a fairly significant level of opposition, with 25% indicating that they are 'Very Unlikely' to support the strategy and 10% stating that they are 'Somewhat Unlikely' to do so.

Support tends to be higher among those with a typical destination of Tumwater (48% 'Very Likely') or Lacey (46% 'Very Likely').

SR 507 between Tenino and Yelm - There is strong support for construction of passing lanes on SR 507 between Tenino and Yelm, with 61% indicating that they are 'Very Likely' and 21% indicating that they are 'Somewhat Likely' to support the strategy.

Opposition is somewhat less for this proposal than the Rainier proposal, with 11% stating that they are 'Very Unlikely' to support the proposal and 7% stating that they are 'Somewhat Unlikely' to support it

Proposed Strategies from the Lewis County Line to the City of Yelm	
Strategy	Mean Score
Likely to support a couplet through the Town of Rainier, using SR 507 and Rochester Street	2.8
Likely to support passing lanes along selected sections of SR 507 between Tenino and Yelm	3.3
Likely to use a transit connection between Intercity Transit and Twin Transit south of Bucoda	1.4
NOTE: Scores range from '1' to '4', with '1' "Very Unlikely' and '4' Very Likely'.	

Proposed Inter-county Transit Connection

A large majority of respondents indicate little or no interest in using an Inter-county transit connection linking Intercity Transit and Twin Transit at a location south of Bucoda. Fully 80% of respondents indicated that they would be 'Very Unlikely' to use the service if it was available, while 9% indicated that they are 'Somewhat Likely' to use it. While 7% indicated that they are 'Somewhat Likely' to use the connection only 4% indicated that they are 'Very Likely' to use it.

Use of Park and Ride Lots in Tenino and Rainier

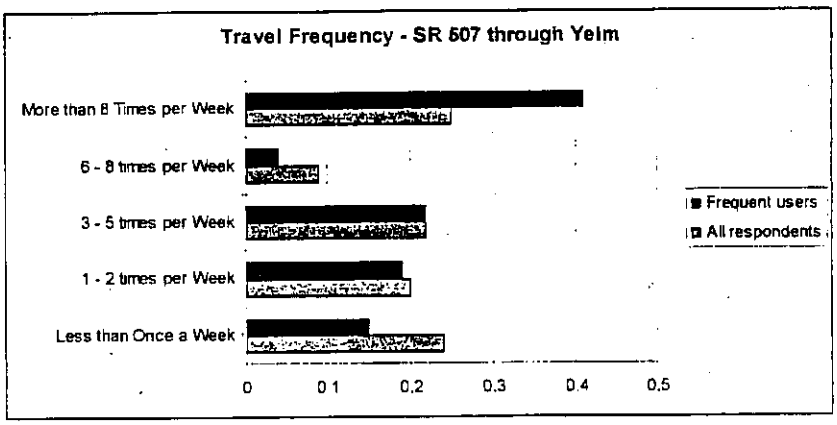
Few respondents expressed an interest in using Park and Ride lots in either Tenino or Rainier. Regarding a possible Park and Ride Lot in Tenino, 95% indicated that they would not use one at all, while 3% indicating that they would use it 1 to 2 times per week. The remaining 2% indicated that they would use it 3 or more times per week.

Responses are quite similar for a Park and Ride Lot in Rainier, with 93% indicated that they would not use one at all, 5 % indicating that they would use it 1 to 2 times per week. The remaining 2% indicated that they would use it 3 or more times per week.

Proposed Strategies for SR 507 Passing Through the City of Yelm

Frequency of Use

The level of use is mixed for those traveling SR 507 through the City of Yelm, with 25% of travelers making more than eight trips weekly, followed by 24% making a trip less than once per week. Three to 5 trips per week are made by 22% of respondents while 20% travel Yelm on SR 507 once or twice per week The remaining 9% make 6 to 8 trips per week on SR 507 through Yelm.



Construction of a Southern Bypass of the City of Yelm

Yelm Bypass - There is strong support for constructing a bypass running south of Yelm, with 62% indicating that they are 'Very Likely' to support the strategy and 22% reporting that they are 'Somewhat Likely' to support the strategy. Support is slightly higher for respondents living in the 98597 (Yelm/Five Corners) Zip Code area with 67% very likely to support the approach; and among those traveling SR 507 3 or more times per week, with 65% very likely to support the approach.

Those tending to oppose a bypass totaled 16% of respondents, with 10% indicating that they are 'Very Unlikely' to support it and 6% reporting that they are 'Somewhat Unlikely' to support it.

Consistent with this level of support, 68% indicated that they would be 'Very Likely' to use the bypass. This rose to 73% for those using SR 507 eight or more times weekly. Those indicating that they are 'Somewhat Likely' to use it made up 16% of the total. Those stating that they are 'Very Unlikely' to use it made up 11% of the respondents while 5% indicated that they are 'Somewhat Unlikely' to use it.

Regarding construction of the bypass, 78% prefer a bypass serving both regional and local traffic over a true bypass providing no direct access to Yelm (16%). Support is highest for those with Lewis County (83%) and Yelm (82%) as their typical destinations.

The remaining 6% of respondents prefer that no bypass be constructed.

Proposed Inter-county Transit Connection

A large majority of respondents indicate mild interest in using an Inter-county transit connection linking Intercity Transit and Pierce Transit. Three out of four respondents (75%) indicated that they would be 'Very Unlikely' to use the service if it was available, while 9% indicated that they are 'Somewhat Likely' to use it. While 9% indicated that they are 'Somewhat Likely' to use the connection only 6% indicated that they are 'Very Likely' to use it

Proposed Strategies for SR 507 through the City of Yelm	
Strategy	**Mean Score**
Likely to support a bypass running south of Yelm	3.4
Likely to use a bypass running south of Yelm	3.4
Likely to use a transit connection between Intercity Transit and Pierce Transit	1.4
NOTE: Scores range from '1' to '4', with '1' "Very Unlikely' and '4' Very Likely'.	

Use of a Park and Ride Lots in Yelm

A large majority (92%) respondents stated that they would not use a Park and Ride Lot in Yelm, while 5% indicated that they would use it once or twice a week. The remaining 3% indicated that they would use it 3 or more times per week

Proposed Strategies for SR 507 between the City of Yelm and State Route 7

Construction of Additional Lanes

City of McKenna - Respondents who are familiar with SR 507 between the City of Yelm and State Route 7 were asked about their level of support for various strategies to address some of the traffic congestion in the McKenna - Roy area.

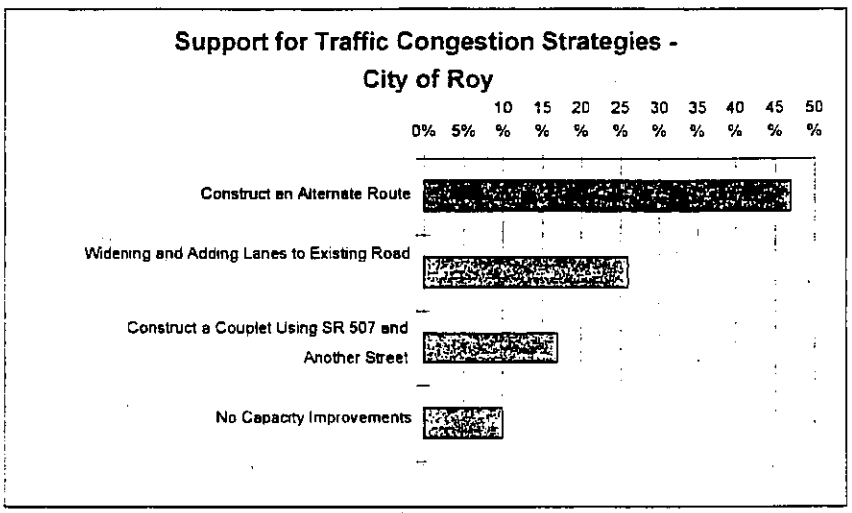
There is strong support for an additional lane in each direction with a two-way left turn lane through the community of McKenna. A total of 93% of the respondents support the idea, with 70% 'Very Likely' to support and 23% 'Somewhat Likely' to support it. Those stating that they are 'Very Unlikely' to support made up 4% of the total while 3% indicated that they are 'Somewhat Unlikely' to support it.

Support for this approach is higher with frequent users of SR 507 (75% 'Very Likely') and with people whose typical destinations are Tumwater and Lacey/Olympia (82% and 77% 'Very Likely', respectively).

Construction of Additional Lanes

City of Roy - Respondents were asked about their level of support for various strategies to improve traffic flows through the City of Roy. For the three suggested improvements, 47% favor construction of an alternate route, 26% favoring widening the existing roadway and adding lanes, and 17% supporting the construction of a couplet (two one-way, two lane roads). The remaining respondents (10%) recommend no capacity improvements for this stretch of highway

SR 507 Between McKenna and Highway 7, Outside the City of Roy - There is strong support for construction of additional lanes with a divided median. While 87% indicated support for the strategy (62% 'Very Likely' to support and 25% 'Somewhat Likely' to support), 14% indicated disfavor with the approach (8% 'Very Unlikely', and 6% 'Somewhat Unlikely'.)



Expansion of Transit Service

A significant proportion of respondents indicated that they would be 'Very Unlikely' (72%) or 'Somewhat Unlikely'(8%) to use expanded public transit service to Roy and McKenna if it was available. Support was less among infrequent users of the route, with 89% stating that they would be 'Very Unlikely' to use the expanded service.

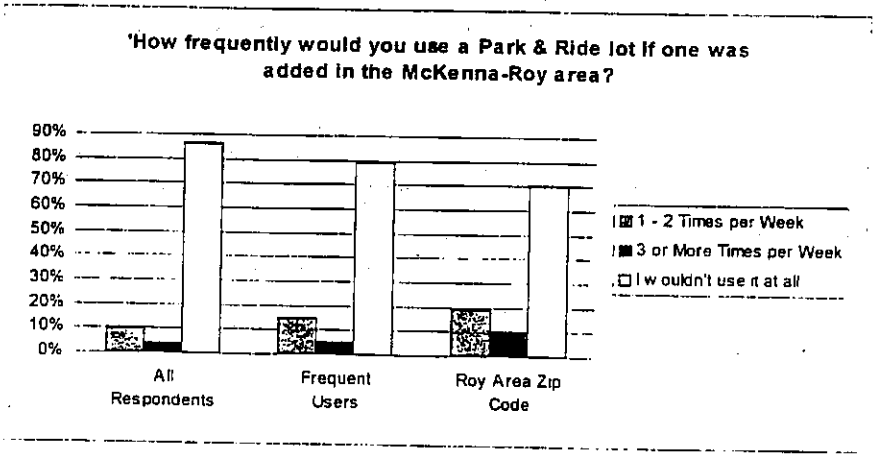
However, there is moderate interest in using the service, with the percentage of those 'Very Likely' and those 'Somewhat Likely' to use the service both at 10%.

Proposed Strategies for SR 507 between the City of Yelm and SR 7	
Strategy	**Mean Score**
Likely to support an additional lane in each direction and a two-way left turn lane through McKenna	3.6
Likely to support additional lanes with a divided median between McKenna and SR 7, outside of Roy	3.4
Likely to use an expanded Pierce Transit service between Roy and McKenna if it was provided.	1.6
NOTE: Scores range from '1' to '4', with '1' "Very Unlikely' and '4' Very Likely'.	

Potential Use of Park and Ride Lots in the McKenna - Roy Area

Few respondents expressed an interest in using a Park and Ride lot in the McKenna - Roy area. Those stating that they 'Wouldn't use it at all' comprised 86% of the respondents, while only 4% indicated that they would use it 3 or more times a week. Ten percent (10%) indicate that they would use a Park and Ride 1 to 2 times per week.

Among frequent users of SR 507 the number indicating that they would use a Park and Ride lot 1 to 2 times per week rose to 15%.



The SR 507 Route Development Plan Steering Committee developed a set of objective statements and associated generic alternatives for issues such as mobility, safety, freight and military mobility, transit, and travel demand management. Using these statements the Steering Committee identified objectives for the SR 507 RDP. For each objective statement, the Steering Committee identified a list of generic alternatives. The objective statements were designed with the intention that they would be measurable.

The following objective statements and generic alternatives were developed and adopted by the SR 507 Steering Committee.

Highway Traffic Mobility

Objective Statement
Increase the person-carrying capacity of SR 507

Generic Alternatives
-Add lanes (through lanes, passing lanes, slow vehicle turnouts)
-Channelization/intersection improvements
-Roundabouts, turn lanes
-TDM
-Access management
-Signalization (add, interconnect)
-HOV applications (transit, queue jumps, lanes)
-Check all that applied to transit and freight
-Yelm Alternative Routes
-Minimize city, town, and community isolation

Transit Mobility

Objective Statement
Increase passenger access to transit on SR 507

Generic Alternatives
-Improve passenger stopping areas
-Sidewalks/crossings
-Bike lanes
-Park-and-ride lots in Tenino, Rainier, Yelm and Roy
-Future transit center in Yelm
-TDM

Objective Statement
Increase transit vehicle access on SR 507

Generic Alternatives
-Increase load carrying capacity
-Increase operating speed
-Bus pull outs
-Access to transit facilities
-Improved priority treatment
-Queue jump lanes
-HOV lane

Freight and Military Mobility

Objective Statement
Increase freight and military mobility on SR 507

Generic Alternatives
-Increase load carrying capacity
-Remove bottle necks
-Improve LOS of intersections
-Improve channelization
-Vertical alignment
-Sight distance
-Operating speed (defines lane capacity)
-Lane addition
-Access management

Travel Demand Management (TDM)

Objective Statement
Decrease SOV use on SR 507

Generic Alternatives
-HOV Lanes
-Parking incentives
-Adopt/promote regional TDM
-Transit objectives
-Bike/pedestrian facilities

Highway Safety

Objective Statement
Decrease number and severity of collisions on SR 507

Generic Alternatives
-Apply highest standards (city, county, or state): alignment, sight distance, roadside, schools
-Reduce speed
-Route continuity and driver expectation
-Access management
-Intersection channelization
-Illumination
-Shoulder widening for bikes and pedestrians
-Grade separation for bikes and pedestrian
-Safe walking/biking routes
-Access/Capacity for EMS
-Plan and design highway improvements in coordination with school districts

Environmental

Objective Statement
Minimize or mitigate environmental impacts

-No action items stated, *WSDOT environmental section to identify environmental issues.*

Social and Economic Impacts

Objective Statement
Maintain community vitality that is consistent with the goals of the city/community

Generic Alternatives
-Minimize community isolation
-Access management
-Plan and design highway improvements with community input

Local governments are encouraged to regulate land developments such that noise sensitive land uses be prohibited adjacent to state highways and that developments near highways be planned, designed and constructed in such a way that noise impacts are minimized.

Land and Shoreline Use

Land use and zoning are discussed in section 2.1, and shown on referenced maps included with this Plan. Intermittent agricultural uses occurring adjacent to the highway include pasture lands, feedlots, hay fields, small produce plots, Christmas tree farms and small and large commercial tree farms.

Two other sizable land uses include a commercial aggregate mining and processing operation, vicinity MP 33 to 34 left, and the Fort Lewis Army Post extending from just north of Roy to beyond the SR 507 junction with SR 7.

There are several jurisdictional shorelines within the highway corridor, either crossed by or adjacent to SR 507. The waterbody, approximate milepost, jurisdictional government and shoreline environment designations are listed below:

- Skookumchuck River, MP 6.1, 6.9 and 7.9, Thurston County, Conservancy
- McIntosh Lake, MP 18 to 19, Thurston County, Conservancy
- Deschutes River, MP 20.4, Thurston County, Conservancy
- Yelm Creek, MP 29.4, Thurston County, Rural
- Nisqually River, MP 30.6, Thurston County, Conservancy
- Nisqually River, MP 30.7, Pierce County, Conservancy

Any work within these jurisdictional shorelines (within 200' of the Ordinary High Water Line or within the 100 year floodplain) will require compliance with the appropriate jurisdiction's Shoreline Development Regulations, and will require a Shoreline Substantial Development Permit, Variance, or Exemption.

Housing

The existing SR 507 right of way will not accommodate the widening required for the improvements identified from Tenino to the north including proposed intersection improvements, intermittent passing lanes, and added through lanes. Construction of these improvements will result in impacts to properties, dwellings and businesses adjacent to the highway, however careful site selection for the passing lanes will allow them to be located and constructed with minimal structure and resource impacts. For this Plan, the level of design detail required to quantify impacts is not available.

As growth and development continues along the corridor, the potential for impacts due to future facility expansion will increase. Again, WSDOT encourages local governments to regulate development immediately adjacent to state highways to minimize impacts resulting from these anticipated expansions.

Aesthetics

The roadside character of the existing two lane highway is classified in the following table excerpted from the *Roadside Classification Plan* (WSDOT, 1996).

Lewis County Line to MP 9.74	Rural
MP 9.74 to MP 10.24	Semi-Urban (Bucoda)
MP 10.24 to MP 11.24	Forest
MP 11.24 to MP 13.64	Rural
MP 13.64 to MP 15.04	Semi-Urban (Tenino)
MP 15.04 to MP 17.54	Rural
MP 17.54 to MP 22.24	Forest
MP 22.24 to MP 22.84	Semi-Urban (Rainier)
MP 22.84 to MP 27.74	Forest
MP 27.74 to MP 29.24	Urban (Yelm)
MP 29.24 to MP 34.64	Semi-Urban (Yelm)
MP 34.64 to MP 36.65	Rural
MP 36.65 to MP 43.45	Forest

While not designated as a Scenic or Recreational Highway the visual and aesthetic impacts resulting from establishing a multi-lane highway are undeniable. These impacts can be lessened by implementing roadside treatments outlined in the Roadside Classification Plan.

Lighting and Glare

The only light produced by proposals in this Plan will be from traffic signals, installed at selected intersections, operating day and night; and by highway illumination systems, installed at all channelized or signalized intersections, operating at night.

Recreation

As noted above, SR 507 is not a designated Scenic or Recreational Highway. It is however a designated Bicycle Touring Route as discussed in Section 3.12, and a well traveled route to Mt. Rainier via State Routes 702, 7 and 706. Also as discussed in Section 3.12, a good portion of the Thurston County rail corridor hiking trail is immediately adjacent to SR 507.

Other recreation opportunities within the SR 507 corridor include informal access to Skookumchuck, Deschutes and Nisqually Rivers, designated and informal access to McIntosh Lake, and public parks in Bucoda, Tenino, Yelm. Only the park in Tenino is not immediately adjacent to SR 507. One or more couplet alternatives through Tenino could be immediately adjacent to the park, however.

Historic and Cultural Preservation

There are currently no sites listed on National Register of Historic Places within the SR 507 corridor. The route itself, and numerous buildings and sites date back to historic periods and if surveyed some would likely be found to be of significance. Some noted cultural features include:

- Oregon Trail Monument, MP 14.6 left in Tenino
- Washington Centennial Wagon Train 1989 Encampment Monument, MP 15 left, in Tenino
- Blue Star Memorial Highway marker, MP 15.4 right
- cemetery, MP 23.6 right
- Blue Star Memorial By Way marker, MP 28.2 right, in Yelm

Right of way purchase or proposed earthwork activities outside existing previously disturbed areas will require an Archaeological/Cultural Resource Survey. Facility expansions adjacent to historic period dwellings and other buildings will require Determination of Eligibility and Determination of Effect surveys.

Transportation

Existing local streets and state highways accessing SR 507 are described in section 1.2, and transit facilities and Park and Ride lots are discussed in section 1.9.

The primary transportation impacts will be to travel patterns resulting from the proposed one-way couplets and the Yelm vicinity by-passes. Public services such as school busses and mail carriers, as well as local freight deliveries, local residents and local business employees would need to adjust.

Public Service

The SR 507 improvements proposed in this plan will not result in an increased need for public services. There are several Public Service facilities adjacent to the highway that could be impacted by proposals included in this Plan:

- Fire station and elementary school, one block south of SR 507 in Tenino could be impacted by couplet alternatives
- Senior center, two schools and fire station, one to two blocks south of SR 507 in Rainier could be impacted by couplet alternatives.
- Retirement home and school, left of SR 507 in McKenna
- Fire station and City Hall, right of SR 507 in Roy

Utilities

No new utilities are required by proposals included in this Plan.. Electric power, already available throughout the corridor, will be required for new traffic signal and highway illumination installations.

The SR 507 right of way is used extensively as a utility corridor for local customer facilities and for transmission facilities. Both overhead and buried utilities exist throughout including electricity, water, sewer, cable television, standard and fiber optic communication, and natural gas and petroleum pipelines. Early identification of, and coordination with potentially impacted utility companies will be required to minimize project development delays and utility service interruptions.

Appendix C Agency Correspondence

City of Yelm

105 Yelm Avenue West
P.O. Box 479
Yelm, Washington 98597
206-458-3244

RECEIVED
OCT 31 1997
Olympic Region

October 29, 1997

Mr. Gary Farnsworth
Washington State Department of Transportation
P.O. Box 47440
Olympia WA 98504-7440

Re: 507 Route Development Plan

Dear Mr. Farnsworth,

We have completed our review of the **WSDOT Olympic Region "*draft*" 507 Route Development Plan** and endorse the departments efforts in addressing critical transportation issues.

It is especially important to note the **"507 Route Development Plan"** addresses *route classification, access management, roadway geometrics, mobility, transit, pedestrian and land use issues.* This effort will enhance a long range plan to insure traffic safety, route preservation and regional links for the motoring public. The Route Development Plan is a good example of inter-jurisdictional cooperation to re-solve regional transportation issues.

As a member of the "steering committee" it was a pleasure to work with the WSDOT staff addressing difficult issues with a positive solution.

If you have any questions feel free to call me at (360) 458-8499.

Sincerely,

City of Yelm

Ken Garmann
Public Works Director

THURSTON REGIONAL PLANNING COUNCIL
2404 HERITAGE COURT SW #B OLYMPIA, WASHINGTON 98502-6031

RECEIVED
DEC 15 1997
OLYMPIC REGION

December 12, 1997

Mr. Gary Farnsworth, PE
Transportation Planning Engineer
Washington State Department of Transportation
PO Box 47440
Olympia, WA 98504-7440

Attention: Chris Schroedel, P.E.

Dear Mr. Farnsworth:

SUBJECT: SR-507 Route Development Plan

I am writing to thank you for the opportunity to review and comment on the draft SR-507 Route Development Plan. It is important to see that the SR-507 Route Development Plan addresses issues such as route classification, access management, safety and multi-modal transportation.

Based on our long range travel demand forecast, traffic congestion will continue to build up along the I-5 corridor within Thurston County. Since SR-507 runs somewhat parallel to I-5, I would like this study to acknowledge that SR-507 has the potential to relieve I-5 traffic congestion. I would also like to see that the Plan recommendations include a statement that the relationship between SR-507 and I-5 be studied in future State Highway System Plan Updates.

As a member of the Steering Committee, I commend you and your staff for doing an excellent job in getting the public and local technical staff involved in the plan development process. As you are aware, while you were preparing the route development plan, Thurston Regional Planning Council was working on updating its long range Regional Transportation Plan. We used the same land use assumptions and consistent long range traffic projections. We are very glad to see this close coordination. It is a good example of inter-jurisdictional cooperation to develop regional transportation solutions.

I look forward to receiving the final document, and will continue to work with WSDOT to coordinate the implementation of the plan.

Sincerely,

Shuming Yan, Senior Transportation Planner
63:1b
cc: Harold Robertson, AICP, TRPC Executive Director

(360) 786-5480
FAX 754-4413

Providing Visionary Leadership on Regional Plans, Policies and Issues

City of Roy
Post Office Box 700
Roy, Washington 98580-0700
843-1113
Open 9-5 (Mon. - Fri.)

September 16, 1997

Gary Farnsworth
Assistant Transportation Planning Manager
WSDOT
Olympic Region
5720 Capitol Boulevard
P.O. Box 47440
Olympia, WA 98504

Re: SR 507 Route Development Plan

Dear Mr Farnsworth:

The City of Roy extends its support and approval to the Draft Route Development Plan for State Route 507, and to the process through which this document was achieved. The Draft Plan, as reviewed, reflects the information presented by City Representatives Mr. Jacobs and Mr. Hammonds, as well as the discussions obtained during the public hearings.

The City feels that our needs and goals are represented within the section through which SR507 traverses the City.

The City continues to oppose the idea of a by-pass at this time for economic development reasons.

Thank you for including the City of Roy in the discussion of this important and vital link to the Regional Transportation System

Sincerely,

Joel A Derefield
Mayor

RECEIVED
SEP 19 1997
OLYMPIC REGION

Appendix D Environmental and Roadside Preservation

This environmental screening was prepared by the Olympic Region Environmental and Hydraulic Services Office and provides an overview of existing environmental conditions and resulting concerns and/or limitations for the study area.

For the purposes of this Route Development Plan, the environmental screening does not include the City of Yelm's proposed Y-2 Southern Bypass, nor does it consider specific alternate couplet routes through Tenino or Rainier. Couplets through these towns have been suggested as potential future capacity improvement concepts; impact analysis will be required as specific routes are proposed.

Environmental Elements

Earth

The existing highway alignment traverses generally level terrain, with a few isolated steeper grades and steep slopes. Most roadway cuts and embankments are 50% slope or flatter.

The Soil Conservation Service *Soil Survey of Thurston County Area, Washington,* General Soil Map, compiled in 1985, classifies the soils in the corridor, from south to north, milepost 5.4 to milepost 30.7 as:

- Chehalis-Newberg association, very deep, well drained, nearly level soils; on floodplains;
- Spanaway-Nisqually association, very deep, somewhat excessively drained, nearly level to rolling soils, on glacial outwash terraces;
- Alderwood-Everett association, moderately deep and very deep, moderately well drained and somewhat excessively drained, nearly level to steep soils on glacial uplands and terminal moraines;
- returning to the Spanaway-Nisqually soils from Yelm to the Pierce County line.

The Soil Conservation Service *Soil Survey of Pierce County Area, Washington,* General Soil Map, compiled in 1977, classifies the soils in the corridor, starting at MP 30.7 and continuing north to the Fort Lewis boundary as:

- Spanaway association: Nearly level, somewhat excessively drained soils that are formed in glacial outwash; on uplands.

Soils are not classified within the Army Post, but the same Spanaway association soils are mapped beyond the Post.

The Thurston County Critical Area inventory maps show Landslide Hazard Areas adjacent to SR 507 from approximately MP 5.44 to 5.9, MP 8.5 to 8.6, and MP 18 to 19. Pierce County does not list or map specific Geologically Hazardous Areas, but generally classifies them as areas of extremely steep slopes or bluffs, or areas with a high erosion potential. The General Soil Map would seem to preclude these conditions, but they may occur in isolated pockets adjacent to the highway. These areas, if any, would be identified during the development of specific projects.

Air

The SR 507 corridor is not located within a designated Air Quality Non-attainment Area, through Thurston County (milepost 5.4 to milepost 30.7). The segment through Pierce County (milepost 30.7 to milepost 43.6) has been designated as noncompliant for ozone (O_3), and the segment from just south of Roy to SR 7 (milepost 35.0 to milepost 43.6) is noncompliant for carbon monoxide (CO). At the time of this report, U.S. EPA is reconsidering the current National Ambient Air Quality Standards (NAAQS). New standards, if enacted, will be more stringent than those in place.

Generally an improvement in Level of Service will result in an improvement to air quality; an increase in traffic volumes will increase pollutants discharged to the air. Mobility improvement projects must be modeled for air quality compliance prior to inclusion in the Regional Transportation Improvement Program and the State Transportation Improvement Program, and if located in designated non-attainment areas must be modeled for conformity in detail at the project level.

Vegetation

Typical vegetation along the route includes big leaf maple, Douglas fir, Oregon oak, red alder, ornamental trees and shrubs, scotch broom, willow, elderberry, Indian plum, hazelnut, Oregon grape, snowberry, salal, bracken fern, blackberry, pasture grasses, turf grasses, thistle, ash, cedar, black cottonwood, reed canary grass, and nettle.

There are several prairie areas through which the highway passes. In the absence of fire, most of these prairies have become overgrown with Douglas fir trees and/or scotch broom.

Several areas within the route are mapped as oak woodlands. Oak woodlands are listed, and protected as, priority habitats. Local jurisdictions require management plans that address impacts and protection of this habitat type. The management plan requirements are typically written for other types of projects, not for road projects.

Approximate locations of mapped oak woodlands and noted concentrations of oaks are shown in the following table:

Start Mile Post	End Mile Post	Side of Rd.	Oak Woodland Type / Notes
6.7 vic.		Left	small number individual trees
10.4	10.8	Right	Conifer deciduous
11.7 vic.		Left	small number individual trees
20.65	21	Left	few scattered trees
21.7 vic		Right & Left	
23.0 vic.		Right	young oaks
23.6	23.9	Left	
25.35	25.42	Right	Conifer deciduous
26.1	26.3	Right	Conifer deciduous
26.55	27.0	Left	Conifer deciduous
26.7	27.35	Right	Conifer deciduous
27.7	27.8	Right & Left	
30.3	30.6	Right & Left	Conifer deciduous
41.2	41.5	Left	
43.3	43.5	Left	

Fish and Wildlife

Habitat in the corridor is available for a variety of species including songbirds, hawks, amphibians, large and small mammals, resident and anadromous fish.

As noted above, the DNR Type 1, 2, and 3 rivers and streams are suitable for anadromous species such as coho and chum salmon. Actual use was not determined, but will need to be when specific projects are funded and scheduled.

Roadway designs should carefully consider the impacts of design features that inhibit wildlife passage across the road such as noise and median barriers as well as impassable fencing.

There is the potential for threatened, endangered, and sensitive species to be present in, or adjacent to, the route. When sections of the route are funded and scheduled for project development, a Biological Assessment (BA) will be prepared (if required). A BA documents (1) the presence of endangered/threatened species; (2) the impacts to those species or their habitats; (3) the mitigation measures necessary to avoid or minimize impacts to those species. A habitat management plan may be required for local jurisdictions if important species are present.

There is mapped occurrence of the state candidate species Roy pocket gopher at MP 34.0 to MP 34.6 and MP 35.0 right. The mapped area is away from the highway, but there may be potential habitat within the ROW.

The entire SR 507 corridor through Fort Lewis property is designated Spotted Owl critical habitat. There is probably no nesting within or directly adjacent to highway.

The threatened western gray squirrels may be found within a half mile for the highway associated with Oregon oak woodlands. There are recorded sightings of western gray squirrels on Fort Lewis property near SR 507 in the vicinity of MP 37, MP 39.6 and MP 41.5. Most oak stands noted adjacent to the highway off of Fort Lewis property do not appear to be good western gray squirrel habitat.

There is an area designated as a "Protected Species Area" at MP 38.5 rt. adjacent to the Muck Creek overflow bridge. This is probably a Fort Lewis white-topped aster management area. Other prairie areas along the route corridor may contain white-topped aster, but as noted above, most prairie areas are overgrown.

- There are also extensive mapped western bluebird nesting boxes throughout the Fort Lewis property.

Energy and Natural Resources

Electricity, to power intersection illumination and signalization systems, is the only permanent energy requirement resulting from proposed improvements.

Environmental Health

There are numerous operating gas stations along the SR 507 corridor with underground fuel storage tanks. In addition, there are several less obvious sites where the potential for ground contamination exists. These include:

- market with abandoned gas pumps, MP 11.4 left
- abandoned gas station, MP 22.8 left
- dry cleaner, MP 28 right
- tavern with abandoned gas pumps, MP 30.8 right
- old garage, MP 31.3 left
- old garage, MP 31.7 left
- abandoned gas station, MP 32.9 right
- tavern with abandoned gas pumps, MP 35.8 right.

Future proposed right of way purchases at all locations throughout the corridor will be preceded by Initial Sight Assessments to establish past land uses with the potential for contaminant generation.

Highway capacity improvements in the form of added through lanes have the potential to increase noise impacts to sensitive receptors above acceptable levels. Where these improvements are proposed within developed areas noise impact analyses must be provided, and practicable abatement treatments considered. Federal guidelines suggest that auxiliary facilities such as passing lanes should also be analyzed; State policy is currently being developed, and will eventually determine the WSDOT criteria for noise abatement considerations on new auxiliary facilities. Under current informal policy, only added through lanes, as this Plan recommends from MP 29.23 in Yelm to MP 43.57 at the SR 7 junction, would require noise impact analysis and potential mitigation. Limited access facilities, with widely spaced access points, offer the best mitigation possibilities.

When sections of the route are funded and scheduled for project development, detailed investigations will be done to determine the actual presence and extent of wetlands and other aquatic resources.

SR 507 lies within the following designated 100 year floodplains:

- Skookumchuck River, MP 5.44 to MP 8
- Scatter Creek, vicinity MP 15.7
- Deschutes River, vicinity MP 20.4
- Yelm Creek, vicinity MP 29.4
- Nisquallly River, MP 30.5 to 30.8
- Murray Creek, vicinity MP 34
- Lacamus Creek, vicinity MP 36.4
- Muck Creek, MP 38.5 to 38.9

Proposed projects in these areas will require floodplain impact analysis.

From MP 5.44 to MP 30.67, SR 507 is within Thurston County Critical Area Ordinance designated Extreme or High Aquifer Recharge Areas, and from MP 30.67 to MP 43.57 within a U.S. Environmental Protection Agency (EPA) designated Sole Source Aquifer. All proposals that could affect the quality, quantity, or drainage patterns of highway generated stormwater runoff will be subject to County and/or EPA review, and will require a Critical Area Ordinance Permit.

All DNR type 1, 2, and 3 are salmon bearing waters. Stream types were estimated where not defined by available mapping or regulation, actual values may differ slightly from those reported in this document.

Mapped possible wetland areas include:

Start Mile Post	End Mile Post	Side of Road	Notes
5.5	5.75	Right	source = PHS map
5.9	5.93	Right	source = PHS map
6.15 vic.		Left	assoc. w/Skookumchuck River
6.7 vic.		Rt. & Lt.	source = PHS map
7.54	8.1	Right	
7.7	7.8	Left	
8.24	8.28	Right	
8.25	8.4	Left	
8.7 vic.		Left	
10.6	10.8	Rt. & Lt.	assoc. w/unnamed stream
15.7	16.7	Right	assoc. w/Scatter Creek trib
15.7	16.4	Left	assoc. w/Scatter Creek trib
17.0	17.1	Right	
17.5	17.75	Right	
18.8	18.95	Right	
21.17	21.2	Right	
23.8 vic.		Rt. & Lt.	
24.05 vic.		Left	
24.18 vic.		Rt. & Lt.	
24.43 vic.		Right	
24.57	24.7	Rt. & Lt.	
24.8 vic.		Rt. & Lt.	
24.95	25.35	Right	assoc. w/McClure Lake
24.98	23.3	Left	
25.95 vic.		Rt. & Lt.	
26.32	26.38	Rt. & Lt.	
26.55	26.6	Right	
27.0 vic.		Right	
27.7	27.83	R	assoc. w/McKenzie Lake
27.68	27.8	L	assoc. w/Solberg Lake
29.4	29.45	Rt. & Lt.	assoc. w/Yelm Creek
30.53	30.59	Lt.	includes DOT Mitigation Site
30.58	30.6	Rt.	
34.0 vic.		Rt. & Lt.	assoc. w/Murray Creek
38.95	38.98	Rt. & Lt.	assoc. w/Muck Creek

Aquatic Resources

The following waterbodies were located within the SR 507 corridor. Information was collected from on-site investigations and office review of resources such as USGS quad maps, Thurston County Critical Areas maps, Priority Habitats and Species maps from the WA State Department of Fish and Wildlife, air photos, and stream catalogs.

Waterbody	Mile Post	WRIA*	DNR Stream Type
Skookumchuck River	6.10	23.0761	1
Unnamed tributary to Skookumchuck	9.03	23.xxxx	4
Unnamed tributary to Skookumchuck	10.58	23.0790	3
Unnamed tributary to Skookumchuck	11.10	23.0791	4
Unnamed tributary to Scatter Creek	15.69	23.0720	3
Unnamed tributary to Scatter Creek	16.10	23.0719	3
Unnamed tributary to Scatter Creek	16.34	23.0722	3
Deschutes River	20.43	13.0028	1
Yelm Creek	29.42	11.0043	1
Nisqually River	30.64	11.0008	1
Murray Creek (Graiville Creek)	34.02	11.0050	3
Lacamas Creek	36.36	11.0022	3
Muck Creek	38.95	11.0018	3

* = Water Resource Inventory Area

This Appendix provides selected text from WAC 468-52 for informational purposes as it relates to highway access management. The complete chapter is not presented. For additional information, please refer to other related chapters such as WAC 468-51 and RCW 47.50 (not reproduced in this Appendix).

WAC 468-52-010 Purpose.

This chapter is adopted in accordance with chapter 47.50 RCW for the implementation of an access control classification system and standards for the regulation and control of vehicular ingress to and egress from the state highway system.

WAC 468-52-020 Definitions.

For the purposes of this chapter, the following definitions of the terms shall apply unless the context clearly indicates otherwise:

"Conforming connection" means a connection that meets current department location, spacing, and design criteria.

"Connection" means approaches, driveways, turnouts, or other means of providing for the right of access to or from controlled access facilities on the state highway system.

"Connection permit" means a written authorization given by the department for a specifically designed connection to the state highway system at a specific location for a specific type and intensity of property use and specific volume of traffic for the proposed connection, based on the final stage of proposed development of the applicants property. The actual form used for this authorization will be determined by the department.

"Controlled access facility" means a transportation facility (excluding limited access facilities as defined in chapter 47.52 RCW) to which access is regulated by the governmental entity having jurisdiction over the facility. Owners or occupants of abutting lands and other persons have a right of access to and from such facility at such points only and in such manner as may be determined by the governmental entity.

"Corner clearance" means the distance from an intersection of a public or private road to the nearest connection along a controlled access facility. This distance is measured from the closest edge of the traveled way of the intersecting road to the closest edge of the traveled way of the connection measured along the traveled way (through lanes).

"Department" means the Washington state department of transportation.

"Governmental entity" means, for the purpose of this chapter, a unit of local government or officially designated transportation authority that has the responsibility for planning, construction, operation, maintenance, or jurisdiction over transportation facilities.

"Intersection" means an at grade connection on a state highway with a road or street duly established as a public road or public street by the local governmental entity.

"Joint use connection" means a single connection point that serves as a connection to more than one property or development, including those in different ownership's or in which access rights are provided in the legal descriptions.

"Limited access facility" means a highway or street especially designed or designated for through traffic, and over, from, or to which owners or occupants of abutting land, or other persons have no right or easement, or only a limited right or easement of access, light, view, or air by reason of the fact that their property abuts upon such limited access facility, or for any other reason to accomplish the purpose of a limited access facility.

"Nonconforming connection" means a connection not meeting current department location, spacing, or design criteria.

"Permit" means written approval issued by the department, subject to conditions stated therein, authorizing construction, reconstruction, maintenance, or reclassification of a state highway connection and associated traffic control devices on or to the departments right of way.

"Permitting authority" means the department or any county, municipality, or transportation authority authorized to regulate access to their respective transportation systems.

"State highway system" means all roads, streets, and highways designated as state routes pursuant to chapter 47.17 RCW.

WAC 468-52-030 General.

The connection and intersection spacing distances specified in this chapter are minimums. Greater distances may be required by the department on individual permits issued in accordance with chapter 468-51 WAC to provide desirable traffic operational and safety characteristics. If greater distances are required, the department will document, as part of the response to a connection permit application pursuant to chapter 468-51 WAC, the reasons, based on traffic engineering principles, that such greater distances are required. Nonconforming permits may be issued in accordance with chapter 468-51 WAC allowing less than minimum spacing where no other reasonable access exists, or where it can be substantiated by a traffic analysis in the permit application that allowing less than the minimum spacing would not adversely affect the desired

function of the state highway in accordance with the assigned access classification, and would not adversely affect the safety or operation of the state highway.

WAC 468-52-040 Access control classification system and standards.

This section provides an access control classification system consisting of five classes. The functional characteristics and the access control design standards for each class are described. The classes are arranged from the most restrictive, class one, to the least restrictive, class five. This access control classification system does not include highways or portions thereof that have been established as limited access highways pursuant to chapter 47.52 RCW. For state highways that are planned for the establishment of limited access control in accordance with the Master Plan for Limited Access Highways, an access control classification will be assigned to each highway segment to remain in effect until such time that the facility is established as a limited access facility.

On all access classes, property access shall be located and designed to minimize interference with transit facilities and/or high occupancy vehicle (HOV) facilities on state highways where such facilities exist or where such facilities are proposed in a state, regional, metropolitan, or local transportation plan. In such cases, if reasonable access is available from the general street system, primary property access shall be provided from the general street system rather than from the state highway.

(1) Class one.

(a) Functional characteristics:

These highways have the capacity for safe and efficient high speed and/or high volume traffic movements, providing for interstate, interregional, and intercity travel needs and some intracity travel needs. Service to abutting land is subordinate to providing service to major traffic movements. Highways in this class are typically distinguished by a highly controlled, limited number of public and private connections, restrictive medians with limited median openings on multilane facilities, and infrequent traffic signals.

(b) Access control design standards:

(i) It is the intent that the design of class one highways be generally capable of achieving a posted speed limit of fifty to fifty-five mph. Spacing of intersecting streets, roads, and highways shall be planned with a minimum spacing of one mile. One-half mile spacing may be permitted, but only when no reasonable alternative access exists.

(ii) Private direct access to the state highway shall not be permitted except when the property has no other reasonable access to the general street system. The following standards will be applied when direct access must be provided:

(A) The access connection shall continue until such time that other reasonable access to a highway with a less restrictive access control classification or access to the general street system becomes available and is permitted.

(B) The minimum distance to another public or private access connection shall be one thousand three hundred twenty feet. Nonconforming connection permits may be issued to provide access to parcels whose highway frontage, topography, or location would otherwise preclude issuance of a conforming connection permit. No more than one connection shall be provided to an individual parcel or to contiguous parcels under the same ownership.

(C) All private direct access shall be for right turns only on multilane facilities, unless special conditions warrant and are documented by a traffic analysis in the connection permit application, signed and sealed by a qualified professional engineer, registered in accordance with chapter 18.43 RCW.

(D) No additional access connections to the state highway shall be provided for newly created parcels resulting from property divisions. All access for such parcels shall be provided by internal road networks. Access to the state highway will be at existing permitted connection locations or at revised connection locations, as conditions warrant.

(iii) A restrictive median shall be provided on multilane facilities to separate opposing traffic movements and to prevent unauthorized turning movements.

(2) Class two.

(a) Functional characteristics:

These highways have the capacity for medium to high speeds and medium to high volume traffic movements over medium and long distances in a safe and efficient manner, providing for interregional, intercity, and intracity travel needs. Direct access service to abutting land is subordinate to providing service to traffic movement. Highways in this class are typically distinguished by existing or planned restrictive medians, where multilane facilities are warranted, and minimum distances between public and private connections.

(b) Access control design standards:

(i) It is the intent that the design of class two highways be generally capable of achieving a posted speed limit of thirty-five to fifty mph in urbanized areas and forty-five to fifty-five mph in rural areas. Spacing of intersecting streets, roads, and highways shall be planned with a minimum spacing of one-half mile. Less than one-half mile intersection spacing may be permitted, but only when no reasonable alternative access exists. In urban areas and developing areas where higher volumes are present or growth that will require signalization is expected in the foreseeable future, it is imperative that the location of any public access be planned carefully to ensure adequate signal progression. Addition of all new connections,

public or private, that may require signalization will require an engineering analysis signed and sealed by a qualified professional engineer, registered in accordance with chapter 18.43 RCW.

(ii) Private direct access to the state highway system shall be permitted only when the property has no other reasonable access to the general street system or if access to the general street system would cause traffic operational conditions or safety concerns unacceptable to the local governmental entity. When direct access must be provided, the following conditions shall apply:

(A) The access connection shall continue until such time that other reasonable access to a highway with a less restrictive access control classification or acceptable access to the general street system becomes available and is permitted.

(B) The minimum distance to another public or private access connection shall be six hundred sixty feet. Nonconforming connection permits may be issued to provide access to parcels whose highway frontage, topography, or location would otherwise preclude issuance of a conforming connection permit. No more than one connection shall be provided to an individual parcel or to contiguous parcels under the same ownership unless the highway frontage exceeds one thousand three hundred twenty feet and it can be shown that the additional access would not adversely affect the desired function of the state highway in accordance with the assigned access classification, and would not adversely affect the safety or operation of the state highway.

(C) All private direct access shall be for right turns only on multilane facilities, unless special conditions warrant and are documented by a traffic analysis in the connection permit application, signed and sealed by a qualified professional engineer, registered in accordance with chapter 18.43 RCW.

(D) No additional access connections to the state highway shall be provided for newly created parcels resulting from property divisions. All access for such parcels shall be provided by internal road networks. Access to the state highway will be at existing permitted connection locations or at revised connection locations, as conditions warrant.

(iii) On multilane facilities a restrictive median shall be provided to separate opposing traffic movements and to prevent unauthorized turning movements.

(3) Class three.

(a) Functional characteristics:

These highways have the capacity for moderate travel speeds and moderate traffic volumes for medium and short travel distances providing for intercity, intracity, and intercommunity travel needs. There is a reasonable balance between direct access and mobility needs for highways in this class. This class is to be used primarily where the existing level of development of the adjoining land is less intensive than

maximum buildout and where the probability of significant land use change and increased traffic demand is high. Highways in this class are typically distinguished by planned restrictive medians, where multilane facilities are warranted, and minimum distances between public and private connections. Two-way left-turn-lanes may be utilized where special conditions warrant. Development of properties with internal road networks and joint access connections are encouraged.

(b) Access control design standards:

(i) It is the intent that the design of class three highways be generally capable of achieving a posted speed limit of thirty to forty mph in urbanized areas and forty-five to fifty-five mph in rural areas. In rural areas, spacing of intersecting streets, roads, and highways shall be planned with a minimum spacing of one-half mile. Less than one-half mile intersection spacing may be permitted, but only when no reasonable alternative access exists. In urban areas and developing areas where higher volumes are present or growth that will require signalization is expected in the foreseeable future, it is imperative that the location of any public access be planned carefully to ensure adequate signal progression. Where feasible, major intersecting roadways that may ultimately require signalization shall be planned with a minimum of one-half mile spacing. Addition of all new connections, public or private, that may require signalization will require an engineering analysis signed and sealed by a qualified professional engineer, registered in accordance with chapter 18.43 RCW.

(ii) Private direct access:

(A) No more than one access shall be provided to an individual parcel or to contiguous parcels under the same ownership unless it can be shown that additional access points would not adversely affect the desired function of the state highway in accordance with the assigned access classification, and would not adversely affect the safety or operation, of the state highway.

(B) The minimum distance to another public or private access connection shall be three hundred thirty feet. Nonconforming connection permits may be issued to provide access to parcels whose highway frontage, topography, or location would otherwise preclude issuance of a conforming connection permit.

(4) Class four.

(a) Functional characteristics:

These highways have the capacity for moderate travel speeds and moderate traffic volumes for medium and short travel distances providing for intercity, intracity, and intercommunity travel needs. There is a reasonable balance between direct access and mobility needs for highways in this class. This class is to be used primarily where the existing level of development of the adjoining land is more intensive and where the probability of major land use changes is less probable than on

class three highway segments. Highways in this class are typically distinguished by existing or planned nonrestrictive medians. Restrictive medians may be used as operational conditions warrant to mitigate turning, weaving, and crossing conflicts. Minimum connection spacing standards should be applied if adjoining properties are redeveloped.

(b) Access control design standards:

(i) It is the intent that the design of class four highways be generally capable of achieving a posted speed limit of thirty to thirty-five mph in urbanized areas and thirty-five to forty-five mph in rural areas. In rural areas, spacing of intersecting streets, roads, and highways shall be planned with a minimum spacing of one-half mile. Less than one-half mile intersection spacing may be permitted, but only when no reasonable alternative access exists. In urban areas and developing areas where higher volumes are present or growth that will require signalization is expected in the foreseeable future, it is imperative that the location of any public access be planned carefully to ensure adequate signal progression. Where feasible, major intersecting roadways that may ultimately require signalization shall be planned with a minimum of one-half mile spacing. Addition of all new connections, public or private, that may require signalization will require an engineering analysis signed and sealed by a qualified professional engineer, registered in accordance with chapter 18.43 RCW.

(ii) Private direct access:

(A) No more than one access shall be provided to an individual parcel or to contiguous parcels under the same ownership unless it can be shown that additional access points would not adversely affect the desired function of the state highway in accordance with the assigned access classification, and would not adversely affect the safety or operation of the state highway.

(B) The minimum distance to another public or private access connection shall be two hundred fifty feet. Nonconforming connection permits may be issued to provide access to parcels whose highway frontage, topography, or location would otherwise preclude issuance of a conforming connection permit.

(5) Class five.

(a) Functional characteristics:

These highways have the capacity for moderate travel speeds and moderate traffic volumes for primarily short travel distances providing for intracity and intracommunity trips primarily for access to state highways of higher classification. Access needs may generally be higher than the need for through traffic mobility without compromising the public health, welfare, or safety. These highways will generally have nonrestrictive medians.

(b) Access control design standards:

(i) It is the intent that the design of class five highways be capable of

achieving a posted speed limit of twenty-five to thirty-five mph. In rural areas, spacing of intersecting streets, roads, and highways shall be planned with a minimum spacing of one-quarter mile. Less than one-quarter mile spacing may be permitted where no reasonable alternative exists. In urban areas and developing areas where higher volumes are present or growth that will require signalization is expected in the foreseeable future, it is imperative that the location of any public access be planned carefully to ensure adequate signal progression. Where feasible, major intersecting roadways that may ultimately require signalization shall be planned with a minimum of one-quarter mile spacing. Addition of all new connections, public or private, that may require signalization will require an engineering analysis signed and sealed by a qualified professional engineer, registered in accordance with chapter 18.43 RCW.

(ii) Private direct access:

(A) No more than one access shall be provided to an individual parcel or to contiguous parcels under the same ownership unless it can be shown that additional access points would not adversely affect the desired function of the state highway in accordance with the assigned access classification, and would not adversely affect the safety or operation of the state highway.

(B) The minimum distance to another public or private access connection shall be one hundred twenty-five feet. Nonconforming connection permits may be issued to provide access to parcels whose highway frontage, topography, or location would otherwise preclude issuance of a conforming connection permit.

(6) Interim standards. The interim standards set forth in this section shall be effective for all segments of the state highway system, except where access rights have been previously acquired pursuant to chapter 47.52 RCW, until superseded by an adopted access control classification as defined in this chapter. These interim standards are mandatory for all state highways where the department is the permitting authority, and are advisory for city streets designated as state highways pursuant to chapter 47.24 RCW where incorporated cities or towns are the permitting authority. Permit applications received after adoption of this chapter, but before the classification of a highway segment is adopted, shall be reviewed for consistency with the interim standards. After a highway segment has been classified pursuant to this chapter, the standards described for that particular class shall supersede the interim standards for the classified highway segment.

(7) **Corner clearance.** Corner clearances for connections shall meet or exceed the minimum connection spacing requirements of the interim standards, or of the applicable access class where the highway segment has been assigned a classification. A single connection may be placed closer to the intersection, pursuant to the permit application process

specified in chapter 468-51 WAC, and in accordance with the following criteria:

(a) If, due to property size, corner clearance standards of this chapter cannot be met, and where joint access meeting or exceeding the minimum corner clearance standards cannot be obtained, or is determined by the department to be not feasible because of conflicting land use or conflicting traffic volumes or operational characteristics, then the following minimum corner clearance criteria may be used:

*For Access Class 5 and for speeds less than thirty-five mph, one hundred twenty-five feet may be used.

(b) In cases where connections are permitted under the above criteria, the permit issued pursuant to chapter 468-51 WAC shall contain the following additional conditions:

(i) There shall be no more than one connection per property frontage on the state highway.

(ii) When joint or alternate access meeting or exceeding the minimum corner clearance standards becomes available, the permittee will close the permitted connection, unless the permittee shows to the department's satisfaction that such closure is not feasible.

WAC 468-52-050 Application of access control classification system standards. (1) Review of permits on classified highway segments. Connection permit applications on controlled access facilities of the state highway system received on a particular segment that has been classified in accordance with this chapter shall be reviewed subject to the requirements of this chapter pursuant to the permit application process specified in chapter 468-51 WAC. (2) Prior approvals. Connections permitted prior to the adoption of this chapter and unpermitted connections that do not require closure in accordance with WAC 468-51-030 are not required to meet the interim standards or the standards of assigned access classifications adopted pursuant to this chapter. (3) New permits required by chapter 468-51 WAC. All new connection permits required due to significant changes in property site use pursuant to WAC 468-51-110, or permit modification pursuant to WAC 468-51-120 shall be reviewed subject to the requirements of this chapter. (4) Permits approved under interim standards. Connection permits issued in accordance with the interim standards in WAC 468-52-040 on a highway segment where an access classification has not been adopted shall remain in effect after adoption of an access classification on that highway segment unless a new permit is required due to changes in property site use pursuant to WAC 468-51-110 or unless permit modification, revocation, or closure of the permitted connection is required pursuant to WAC 468-51-120. (5)

Nonconforming permits. Nonconforming permits may be issued in accordance with WAC 468-51-100 for certain connections not meeting the interim standards in WAC 468-52-040 or the access classification location and spacing standards adopted for a particular highway segment.

WAC 468-52-060 Assignment of access control classifications to highway segments. The assignment of an access control classification to all controlled access segments of the state highway system shall be the responsibility of the department. The process to be followed in assigning the classifications is as follows: (1) Defining segments. The determination of the length and termini of segments shall be the responsibility of the department working in cooperation with the Regional Transportation Planning Organizations, Metropolitan Planning Organizations, and the appropriate local governmental entities. (a) Segments of highways to be assigned to a particular access control classification shall be defined by the department in cooperation with local governments. The length and termini of segments shall take into consideration the mobility and access needs of the traveling public, the access needs of the existing and proposed land use abutting the highway segment, and the existing and desired mobility characteristics of the roadway. The number of classification changes occurring along a particular highway shall be minimized to provide highway system continuity, uniformity, and integrity to the maximum extent feasible. The segments shall not necessarily be confined by local jurisdictional boundaries. Points of transition between classifications along a particular route should be located on boundaries, or coincident with identifiable physical features. (2) Assignment of classifications. All segments of all controlled access facilities on the state highway system shall be assigned to one of the access control classes one through five. The assignment of a classification to a specific segment of highway shall be the responsibility of the department. The classification shall be made in cooperation with the Regional Transportation Planning Organization, Metropolitan Planning Organization, and the appropriate local governmental entities. For city streets that are designated as state highways pursuant to chapter 47.24 RCW, the department will obtain concurrence in the final class assignment from the city or town for those state highways where the city or town is the permitting authority. The assignment of a classification shall take into consideration the following factors: (a) Local land use plans, zoning, and land development regulations as set forth in adopted comprehensive plans; (b) The current and potential functional classification of the highway; (c) Existing and projected future traffic volumes; (d) Existing and projected state, local, and metropolitan planning organization transportation plans and needs including consideration of new or improved parallel facilities; (e) Drainage requirements; (f) The character of the lands adjoining the highway; (g) The type and volume of traffic requiring access; (h) Other operational aspects of access, including corridor accident history; (i) The

availability of reasonable access to the state highway by way of county roads or city streets as an alternative to a connection to the state highway; (j) The cumulative effect of existing and projected connections on the state highway systemps ability to provide for the safe and efficient movement of people and goods within the state. (3) Changes in jurisdiction. When the boundaries of an incorporated city or town are revised to include a portion of a controlled access state highway resulting in a change in the permitting authority from the department to the city or town in accordance with chapter 47.24 RCW, the access classification of that portion of the state highway shall remain unchanged unless modified in accordance with WAC 468-52-070.

WAC 468-52-070 Review and modification of classifications. (1) Department initiated action. The department may, at any time, initiate a review of the access control classification of any segment of any state highway. When a major change occurs in any of the factors noted in WAC 468-52-060(2), the department shall review the access classification for the specific segments of any state highway affected by the change. Prior to the initiation of any change in classification of a highway segment, the department shall notify in writing the appropriate Regional Transportation Planning Organization, Metropolitan Planning Organization, and local governmental entities. The department will consult with the RTPO, MPO, and local governmental entities and shall take into consideration, any comments or concerns received during the review process. For city streets that are designated as state highways pursuant to chapter 47.24 RCW, the department will obtain concurrence in the final class assignment from the city or town for those state highways where the city or town is the permitting authority. The department shall notify the RTPO, MPO, and local governmental entities in writing of the final determination of the reclassification action. (2) Requests for departmental review. A Regional Transportation Planning Organization, Metropolitan Planning Organization, or local governmental entity may request, in writing, at any time that the secretary of transportation initiate a review of the access control classification of a specific segment or segments of a state highway(s). Such written request shall identify the segment(s) of state highway for which the review is requested and shall include a specific recommendation for the reclassification of the highway segment(s) involved. Justification for the requested change shall be provided in the request taking into account the standards and criteria in WAC 468-52-040 and 468-52-060. The department will consult with the RTPO, MPO, and local governmental entities involved and shall take into consideration, any comments or concerns received during the review process. The department shall notify the RTPO, MPO, and local governmental entities in writing of the final determination of the reclassification action. Other interested persons or organizations who wish to initiate a review of the access control classification of a specific

highway segment shall do so through the local governmental entity, MPO, or RTPO.

Glossary of Terms & Abbreviations

Activity Center - A major concentration of employment and commercial activity which may be found in suburban areas as well as in the downtown areas.

Alignment - The specific path a highway will take between two designated points within a corridor.

Americans with Disabilities Act of 1990 (ADA) - mandates changes in building code, transportation services and facilities and hiring practices to prevent discrimination against persons with disabilities.

Average Daily Traffic (ADT) - The average number of vehicles that pass a specified point during a 24 hour period.

Capacity - Maximum number of vehicles (vehicular capacity) or persons (person capacity) that can pass over a given section of roadway in one or both directions during a given period of time under a prevailing environmental, roadway and roadway user conditions, usually expressed as vehicles per hour or persons per hour.

Channelization - The separation or regulation of conflicting traffic movements into definite paths of travel by use of pavement markings, raised islands or other means.

Collector/Distributor - A collector provides the primary access to a minor arterial for one or more neighborhoods or non-residential areas. Collectors/distributors move traffic to and from the arterial system. They provide a limited amount of travel through neighborhoods and non-residential areas which originates and terminates externally. Collectors/distributors provide direct connections to local roads and minor collectors. They provide collection and distribution routes for public transit systems. Trip length on a collector/distributor is generally between 2 and 10 miles.

Comprehensive Plan - Developed by town, city and county jurisdictions to manage their future growth and economy while protecting the environment. Individual elements of most comprehensive plans include; Land Use, Transportation, Housing, Capitol Facilities, Utilities, Economic Development and the Environment.

Corridor - One of several general paths which a highway can take to satisfy the route requirements and which has one or more specific alignment alternatives. A corridor can include, as a whole or in part, any existing state highway facility, county highway facility, city street, new alignments or any combination of these

Directional Design Hour Volume (DDHV) - The traffic volume for the design hour in the peak direction of flow usually a forecast of the relevant peak hour volume, in vehicles per hour.

Design Hour Volume (DHV) - The traffic volume for the design hour, in vehicles per hour.

Design Speed - The maximum safe speed when conditions are so favorable that the design features of the highway govern.

Design Year - The year for which a project is designed. In transportation projects the design year is typically taken to be 20 years from the time of construction. Using the traffic volumes estimated in the future allows engineers to design the project to meet those predicted needs. In effect the design life of the project is taken to be 20 years. What actually happens in the future may differ from predictions.

Divided Highway - A highway with separated roadbeds for traffic in opposing directions.

Grade - The rate of ascent or descent of a roadway, expressed as a percent; the change in roadway elevation per unit of horizontal length.

Full Access Intersection - An intersection that provides for both left and right turning movements for vehicles entering the intersection from any direction.

Horizontal Alignment - The straight lines (tangents) and curves of the road.

High Occupancy Vehicle (HOV) - High Occupancy Vehicle. Typically any vehicle that carries more than one person is called an HOV (High

Occupancy Vehicle). HOV may sometimes be defined as carrying 3 or more persons.

High Occupancy Vehicle Lane - High Occupancy Vehicle Lane. Reserved for use by high occupancy vehicles (HOVs) either all day or during specified periods (e.g. during the peak hours). An HOV for the purpose of the lane may be a bus, carpool, vanpool or motorcycle.

Intersection Improvements - provide obstruction-free sight triangles (often achieved through slope flattening, selective clearing or both), eliminate skews where possible, separate grades where possible, illumination and other enhancements to improve the safety characteristics of the intersection which may have the desirable collateral effect of improving the transportation characteristics of the intersection.

Lane - A portion of a street or highway, usually indicated by pavement markings, that is intended for one line of vehicles.

Level of Service (LOS) - The level of service is a measure of how well a transportation facility is serving the volume of vehicles using it. A descriptive measure of the quality and quantity of transportation service provided to users. Quantifiable characteristics such as travel time, travel cost, number of transfers etc. are considered.

Median - The portion of a divided highway separating the traveled ways for traffic in opposite directions.

Metropolitan Planning Organization (MPO) - MPOs, were organized after passage of the 1962 Federal Highway Act which first formally legislated cooperation between state DOTs and local communities in urban areas. The 1991 ISTEA greatly expanded MPO authority. MPOs have the authority to allocate federal funds coming into their regions through the Surface Transportation Program (STP) and Congestion Mitigation and Air Quality (CMAQ) Program.
The MPO is responsible for regional transportation planning in an urbanized area. Members are designated by the governor and local elected officials.

Milepost (MP) - A sequential number, in designated direction of travel, of 1/100 mile increments along a State Route.

Minor Arterial - Minor arterials provide access to the principal arterial and freeway system. They provide a lower level of travel mobility than principal arterials to major communities within a county. They provide primary access to or through communities of high density residential, commercial or retail or industrial land areas. They provide access to abutting properties at pre-determined locations. Trip length on minor arterials generally exceeds five miles. Minor arterials provide routes for public transit systems between major communities within a county.

Mobility - Capable of moving from one place to another. As congestion increases, mobility decreases.

Objectives - Specific, measurable statements related to the attainment of goals.

Office of Urban Mobility (OUM) - An office within WSDOT

Park-and Ride-Lot - A transit, carpool and/or vanpool facility where people can park their auto and then ride transit or join a carpool or vanpool to work.

Preemption of Signals - A system whereby specific vehicles, such as buses or emergency vehicles, are given preference at traffic signals in order to speed their movement.

Queue - A line of people or vehicles.

Revised Code of Washington (RCW)

Route Development Plan (RDP)

Right-of-way - Land owned by the state for the purposes of highway and transportation facility construction and operation.

Sight Distance - Minimum distance necessary for a driver to see conflicting traffic and take the action necessary to avoid colliding with that traffic.

Single Occupant Vehicle (SOV) - a vehicle carrying only the driver.

State Environmental Policy Act (SEPA)

State Route (SR)

Superelevation Rate - The rate of rise in cross-section of the finished surface of a roadway on a curve, measured from the lowest or inside edge to the highest or outside edge.

System Plan - Provide service objectives and action strategies for maintaining, operating, preserving and improving our state highways.

Transit - Passenger transportation that is available to any person who pays a prescribed fare. Operating on established schedules along fixed routes and designated stops, transit is designed to move relatively large groups of people at one time.

Transit Center (transit station) - A mode transfer facility serving transit buses and other modes such as automobiles, bicycles and pedestrians.

Travel Demand Management (TDM) - refers to the policies, programs and actions implemented to increase the use of High Occupancy Vehicles (public transit, carpooling and vanpooling) and non-motorized transportation and/or spread the timing of travel to less congested time periods through alternate work-hour programs.

Transportation System Management (TSM) - improves the flow of traffic through traffic signal synchronization, freeway on-ramp signals, the construction of high-occupancy-vehicle (HOV) lanes, left turn restrictions and other measures.

Transportation Information and Planning Support (TRIPS)

Two-way Left-Turn Lane (TWLTL)

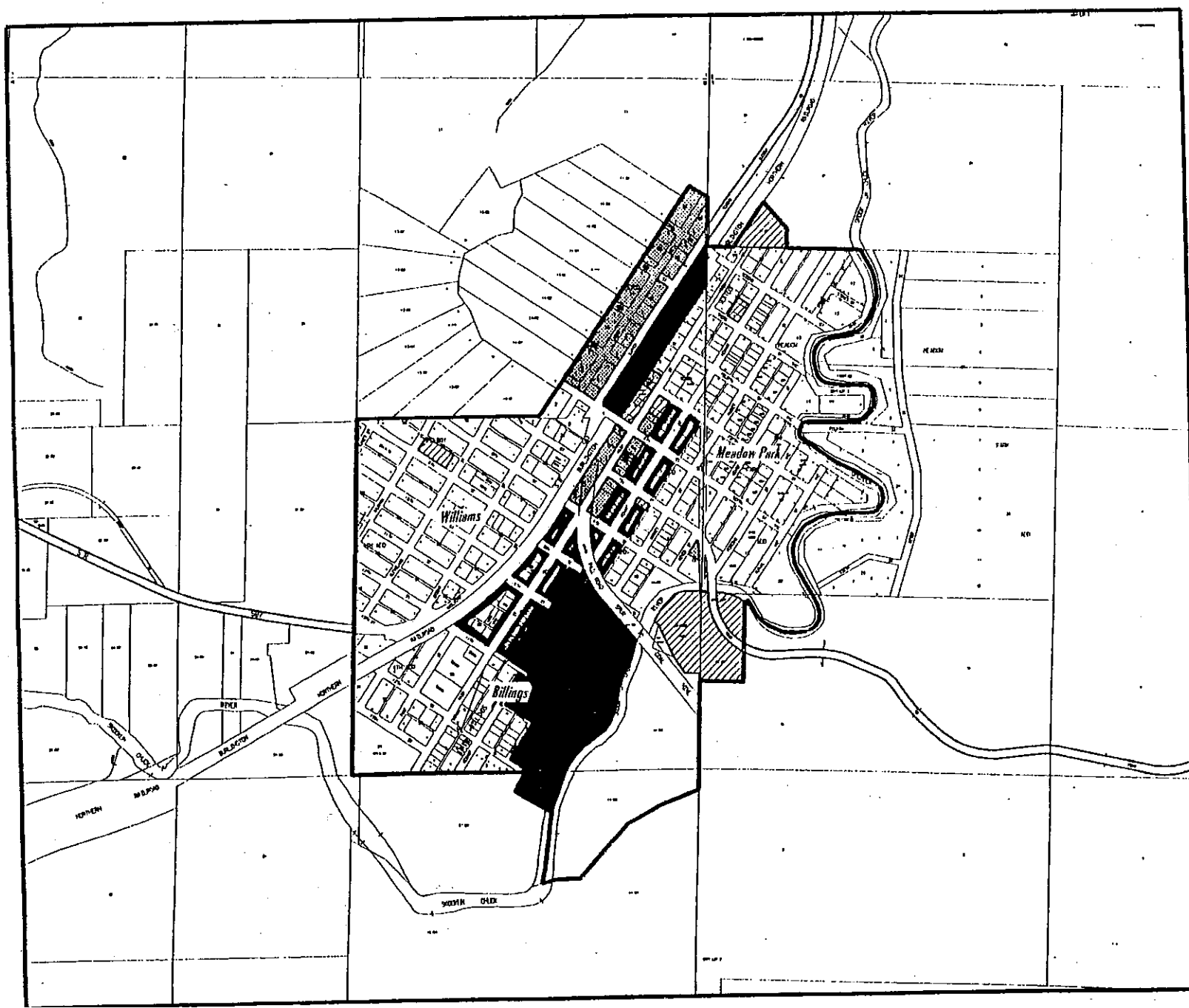
Urban Growth Area (UGA)

Vertical Alignment - The grades the road takes as it passes over terrain. Typically the vertical alignment attempts to use the natural contours and geography of the area.

Washington Administrative Code (WAC)

Washington State Department of Transportation (WSDOT)

Appendix G Land Use Maps



MAP 8

TOWN OF BUCODA
PROPOSED LAND USE

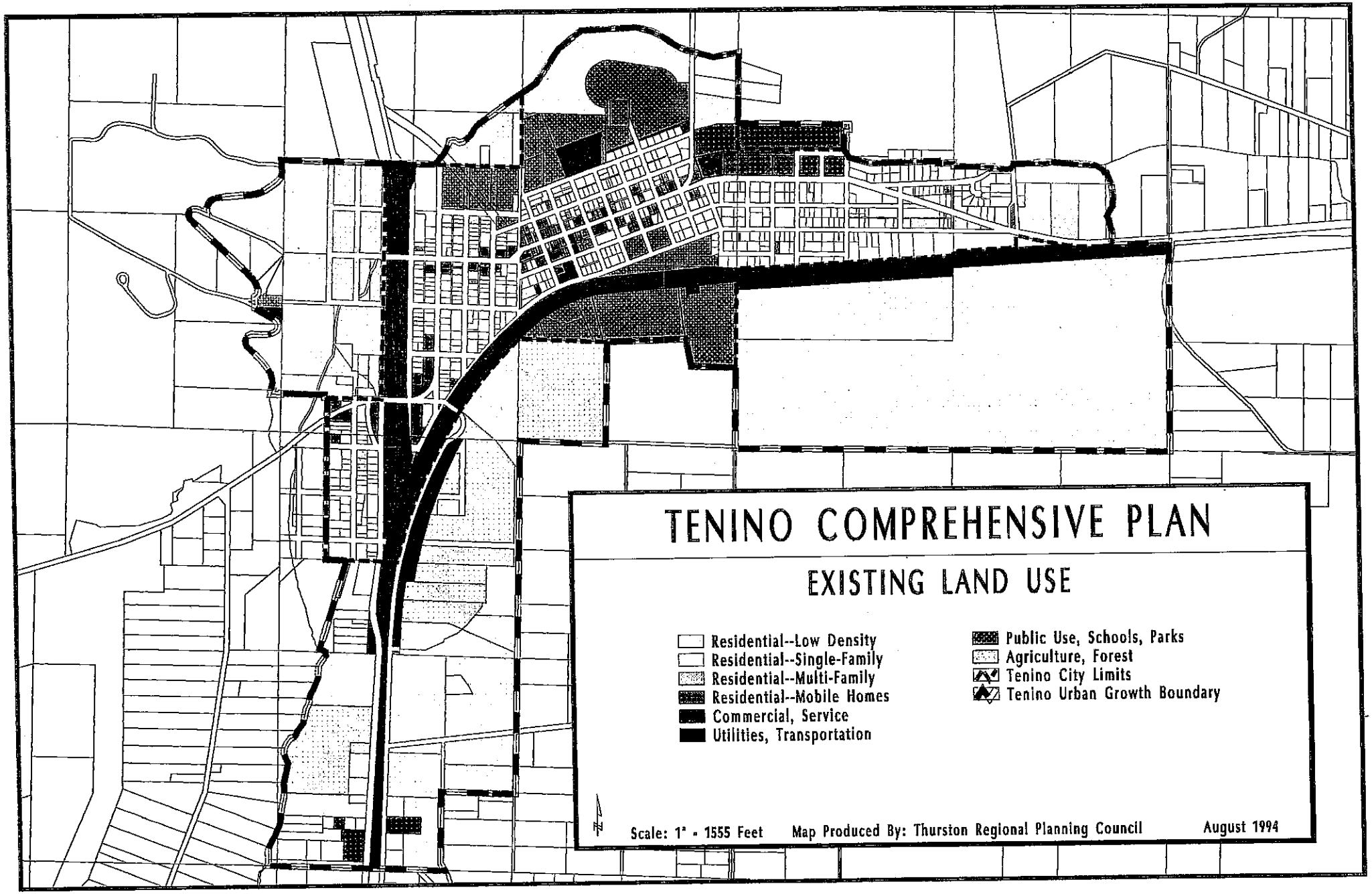
- PUBLIC USE
- SF/D RESIDENTIAL
- MF RESIDENTIAL
- COMMERCIAL
- INDUSTRIAL
- HISTORIC
- CITY LIMITS AND UGMB

Neighborhood

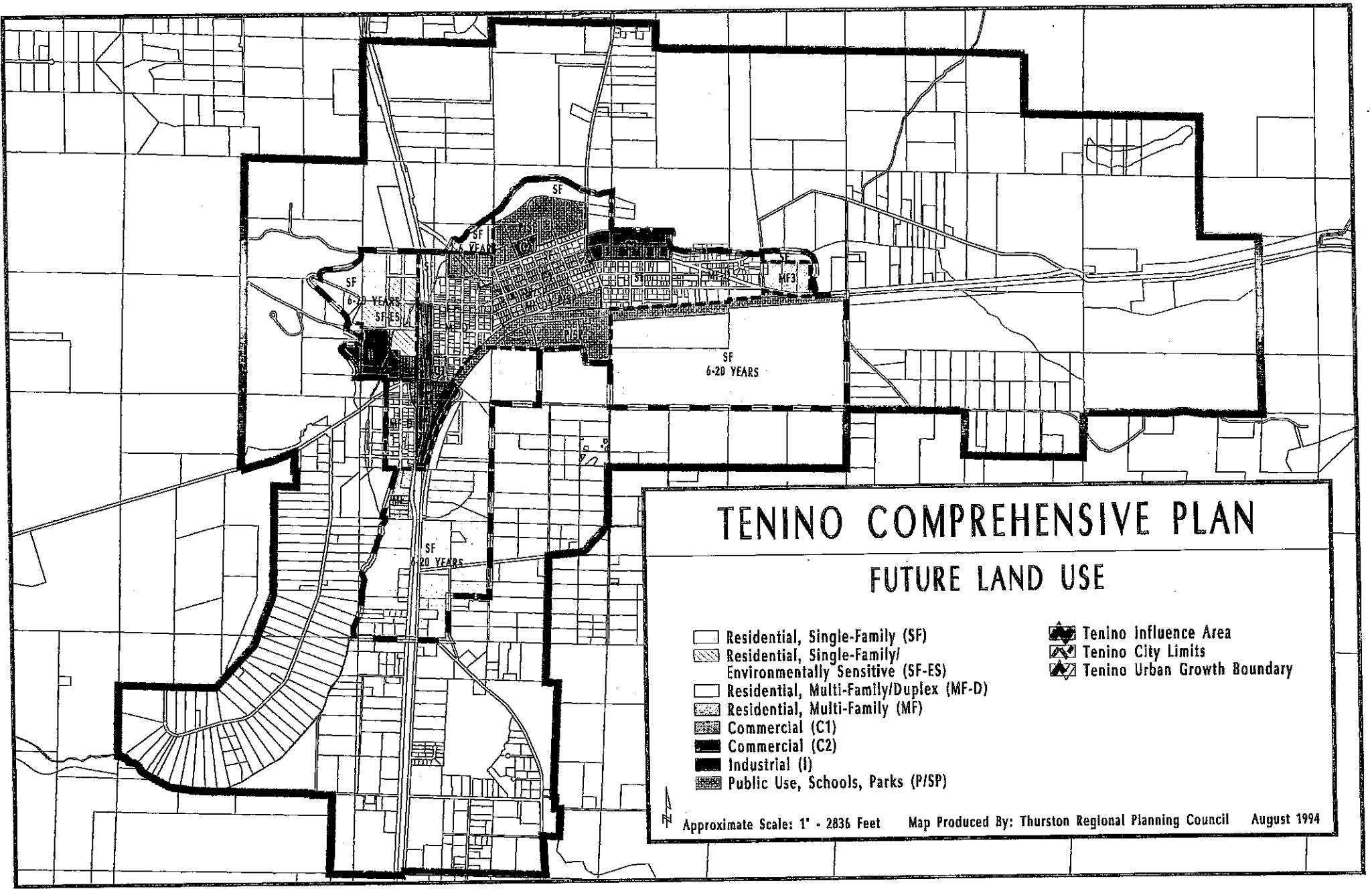
September 1993

MAP PRODUCED BY

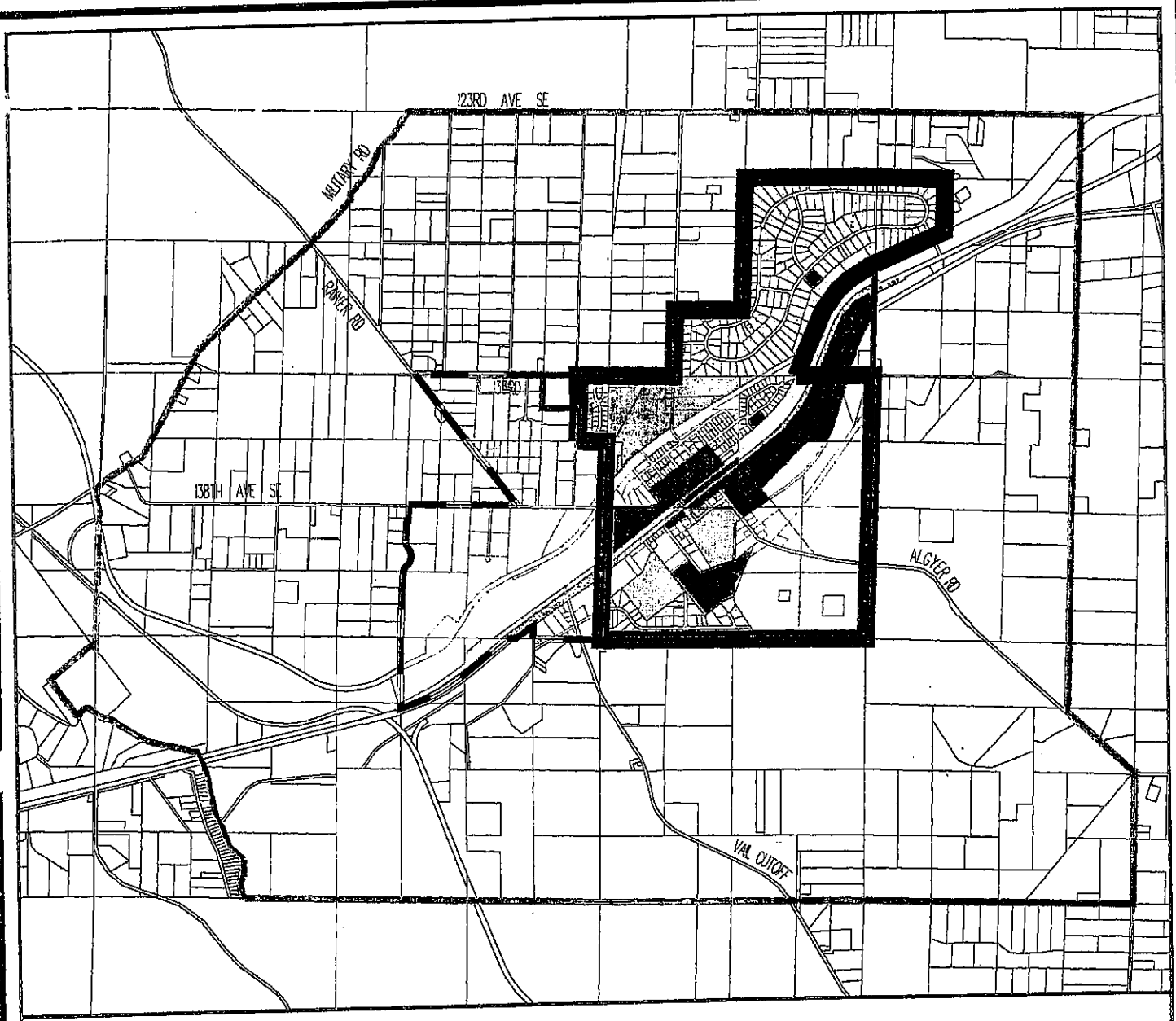
THURSTON REGIONAL PLANNING COUNCIL


TENINO COMPREHENSIVE PLAN
EXISTING LAND USE
Residential--Low Density
Residential--Single-Family
Residential--Multi-Family
Residential--Mobile Homes
Commercial, Service
Utilities, Transportation
Public Use, Schools, Parks
Agriculture, Forest
Tenino City Limits
Tenino Urban Growth Boundary
Scale: 1" = 1555 Feet
Map Produced By: Thurston Regional Planning Council
August 1994

MAP 6


SF
6-20 YEARS
SF-ES
MF3
P/SP
C1
C2
I
TENINO COMPREHENSIVE PLAN
FUTURE LAND USE
Residential, Single-Family (SF)
Residential, Single-Family/ Environmentally Sensitive (SF-ES)
Residential, Multi-Family/Duplex (MF-D)
Residential, Multi-Family (MF)
Commercial (C1)
Commercial (C2)
Industrial (I)
Public Use, Schools, Parks (P/SP)
Tenino Influence Area
Tenino City Limits
Tenino Urban Growth Boundary
N
Approximate Scale: 1" - 2836 Feet
Map Produced By: Thurston Regional Planning Council
August 1994

MAP 7



TOWN OF RAINIER AND ITS UGA
FUTURE LAND USE

- Low Density Residential (1:1)
- Medium Density Residential (4:1)
- High Density Residential (6:1)
- Commercial
- Public Facility
- Parks
- Trails/ Open Space

- Town Limits
- Short-Term Urban Growth Boundary
- Long-Term Urban Growth Boundary
- Area of Influence

Prior to annexation, the maximum permitted residential density in the unicorporated portions of both the long- and short-term UGAs is 1 unit per 5 acres.

N

Map 1: Future Land Use

April 1995

Map Produced By: Thurston Regional Planning Council

CITY OF YELM ZONING

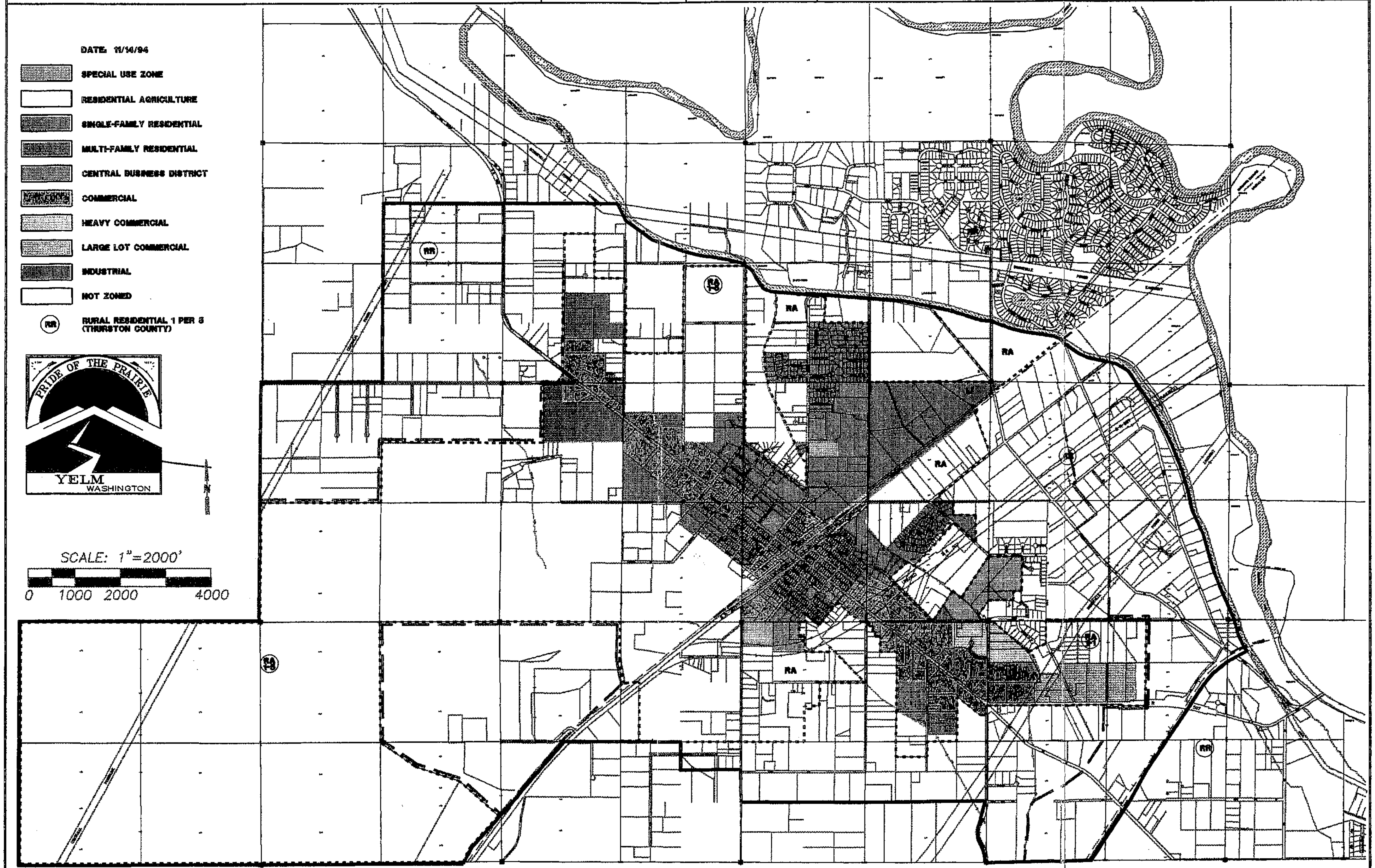
POSITIONS AND DISTANCES ARE APPROXIMATE. DO NOT USE THIS PRODUCT TO DERIVE STATE PLANE COORDINATE DATA. MAY NOT BE AN ACCURATE REPRESENTATION OF CURRENT PARCEL BOUNDARIES OR RIGHT-OF-WAY OWNERSHIP. THIS IS NOT A SURVEY OR LEGAL DOCUMENT.

PUBLISHED BY THE CITY OF YELM, 1992.
CARTOGRAPHIC ENHANCEMENT BY SKILLINGS – CONNOLLY, INC., 1992
DIGITAL MAP DATA PROVIDED BY THURSTON (COUNTY) GEOGRAPHIC INFORMATION FACILITY (TGIF), 1991
ORIGINAL MAPPING BY THURSTON COUNTY ASSESSOR, 1991.

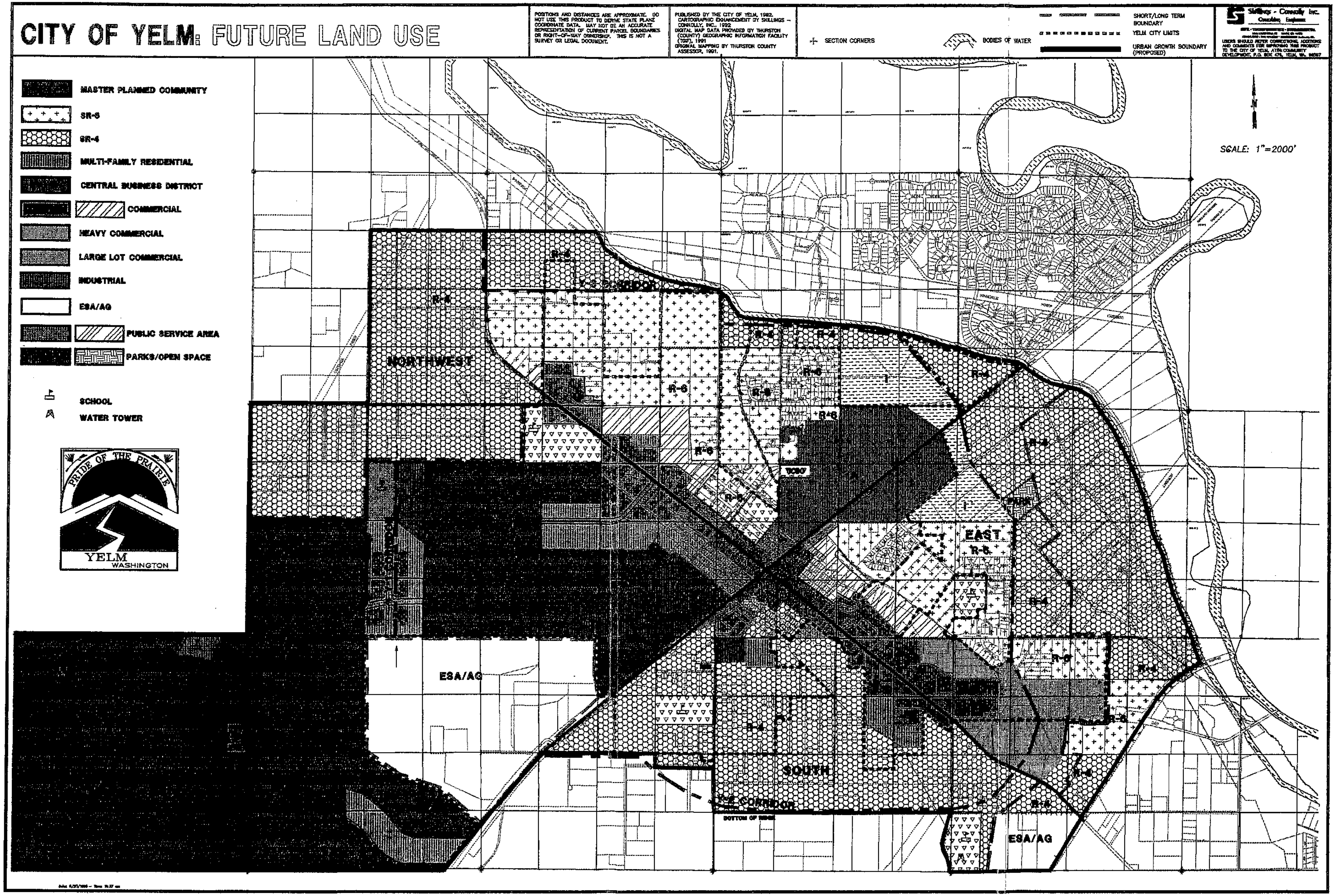
RAILROAD | BODY OF WATER | SECTION CORNER | CITY BOUNDARY | ZONE BOUNDARY | URBAN GROWTH BOUNDARY

Skillings - Connolly Inc.
Consulting Engineers

USERS SHOULD REFER CORRECTIONS, ADDITIONS AND COMMENTS FOR IMPROVING THIS PRODUCT TO THE CITY OF YELM, ATTN: COMMUNITY DEVELOPMENT, P.O. BOX 479, YELM, WA. 98597



MAP #2



CITY OF YELM: FUTURE LAND USE
POSITIONS AND DISTANCES ARE APPROXIMATE. DO NOT USE THIS PRODUCT TO DERIVE STATE PLANE COORDINATE DATA. MAY NOT BE AN ACCURATE REPRESENTATION OF CURRENT PARCEL BOUNDARIES OR RIGHT-OF-WAY OWNERSHIP. THIS IS NOT A SURVEY OR LEGAL DOCUMENT.
PUBLISHED BY THE CITY OF YELM, 1992. CARTOGRAPHIC ENHANCEMENT BY SKILLINGS – CONNOLLY, INC., 1992
DIGITAL MAP DATA PROVIDED BY THURSTON (COUNTY) GEOGRAPHIC INFORMATION FACILITY (TGIF), 1991
ORIGINAL MAPPING BY THURSTON COUNTY ASSESSOR, 1991.
SECTION CORNERS
BODIES OF WATER
SHORT/LONG TERM BOUNDARY
YELM CITY LIMITS
URBAN GROWTH BOUNDARY (PROPOSED)
Skillings - Connolly Inc.
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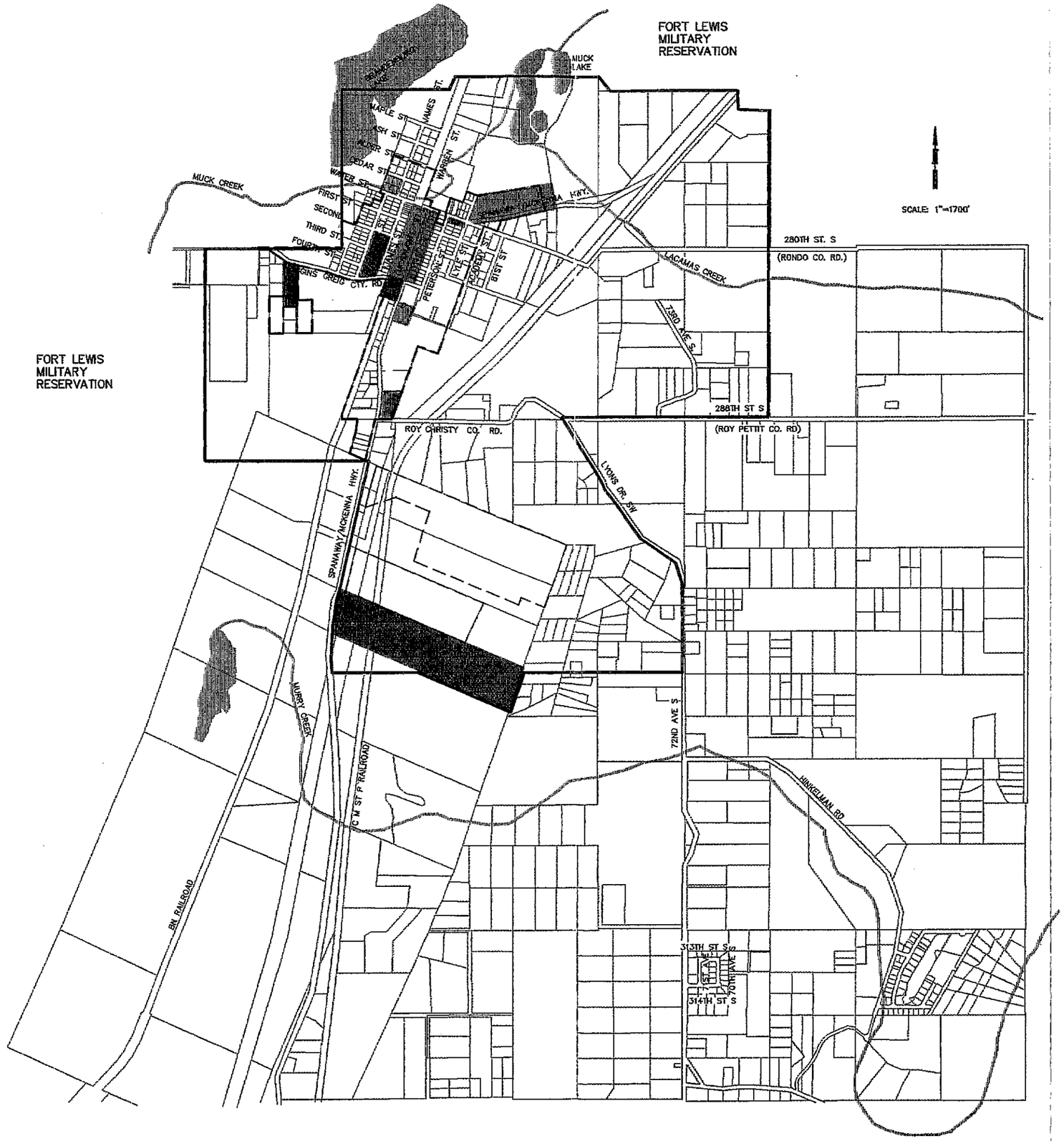
SCALE: 1"=2000'
MASTER PLANNED COMMUNITY
SR-6
SR-4
MULTI-FAMILY RESIDENTIAL
CENTRAL BUSINESS DISTRICT
COMMERCIAL
HEAVY COMMERCIAL
LARGE LOT COMMERCIAL
INDUSTRIAL
ESA/AG
PUBLIC SERVICE AREA
PARKS/OPEN SPACE
SCHOOL
WATER TOWER
PRIDE OF THE PRAIRIE
YELM
WASHINGTON
NORTHWEST
EAST
SOUTH
ESA/AG
R-4
R-6

MAP #3



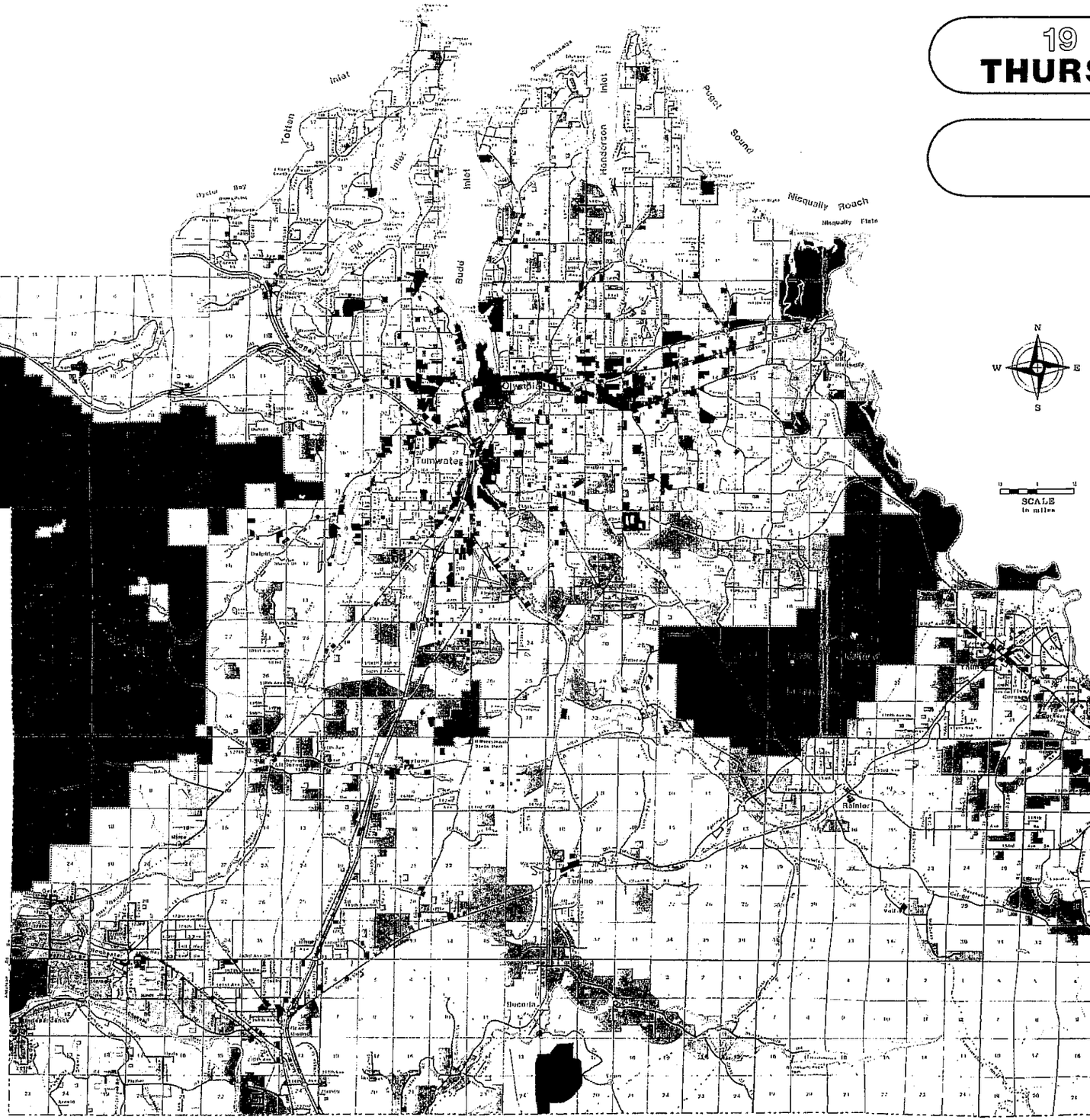
CITY OF ROY

FIGURE 1–1
ZONING MAP

Gray & Osborne, Inc.
CONSULTING ENGINEERS

19 COMPREHENSIVE PLAN 86
THURSTON COUNTY, WASHINGTON

EXISTING LAND USE



- RESIDENTIAL
- COMMERCIAL
- INDISTRIAL/MINING
- TRANSPORTATION/UTILITIES
- PARKS/GOVERNMENT/PUBLIC
- AGRICULTURE
- UNDEVELOPED/GENERAL RURAL/ FORESTRY

SOURCE: Thurston Regional Planning Council

NOTE: Capitol Forest and parts of Fort Lewis are managed forest harvest areas. Map denotes generalized land use and is not site specific.

Maps prepared by Thurston County Planning Department.

19 COMPREHENSIVE PLAN 95
THURSTON COUNTY, WASHINGTON

FINAL URBAN GROWTH AREAS

- Urban Growth Area: Area within which urban growth is anticipated over the next 20 years.
- Short-Term Urban Growth Area: Area within which urban growth is anticipated over the next 10 years. •
- Long-Term Urban Growth Area: Area within which urban growth is anticipated over the 11-20 year time period. •

- Rochester-Grand Mound Growth Study Area
- City/ Town Limits
- Urban Growth Area Boundary
- Short-Term Urban Growth Area Boundary
- Long-Term Urban Growth Area Boundary
- Rochester-Grand Mound Growth Study Boundary

• Note: Urban growth within Rainier's short- and long-term urban growth areas is dependent upon the timing of development within the town limits. Please refer to the Rainier/ Thurston County Joint Plan for more information.

Map Produced By: Thurston County Advance Planning & Historic Preservation

Scale: 1"=3 mi. April 1995

M-14

R4W R3W R2W R1W R1E R2E R3E R4E

T20N T19N T18N T17N T16N T15N

R4W R3W R2W R1W R1E R2E R3E R4E R5E

19 COMPREHENSIVE PLAN 95
THURSTON COUNTY, WASHINGTON

FUTURE LAND USE

RURAL AREAS
- McAllister Geologically Sensitive Area
- Residential -- 1 Unit Per 5 Acres
- Residential -- 1 Unit Per 2 Acres
- Residential -- 1 Unit Per 1 Acre
- Residential -- 2 Units Per 1 Acre
- Residential -- 4 Units Per 1 Acre

- Public Preserves ▲ County Parks ● State Parks
- Military Reservation
- Institutional

- Neighborhood Convenience Commercial
- Arterial Commercial
- Highway Commercial
- Industrial

LONG-TERM RESOURCE AREAS
- Agriculture
- Forestry

URBAN GROWTH AREAS
- Mixed Use (Grand Mound)
- Refer to applicable City/County Joint Plan (See Page 2-33)

- Mixed Use (Rochester-Grand Mound Growth Study Area)

- City/Town Limits
- Urban Growth Area Boundaries
- Rochester-Grand Mound Growth Study Boundary
- Indian Reservation Boundaries

Map Produced By: Thurston County Advance Planning & Historic Preservation

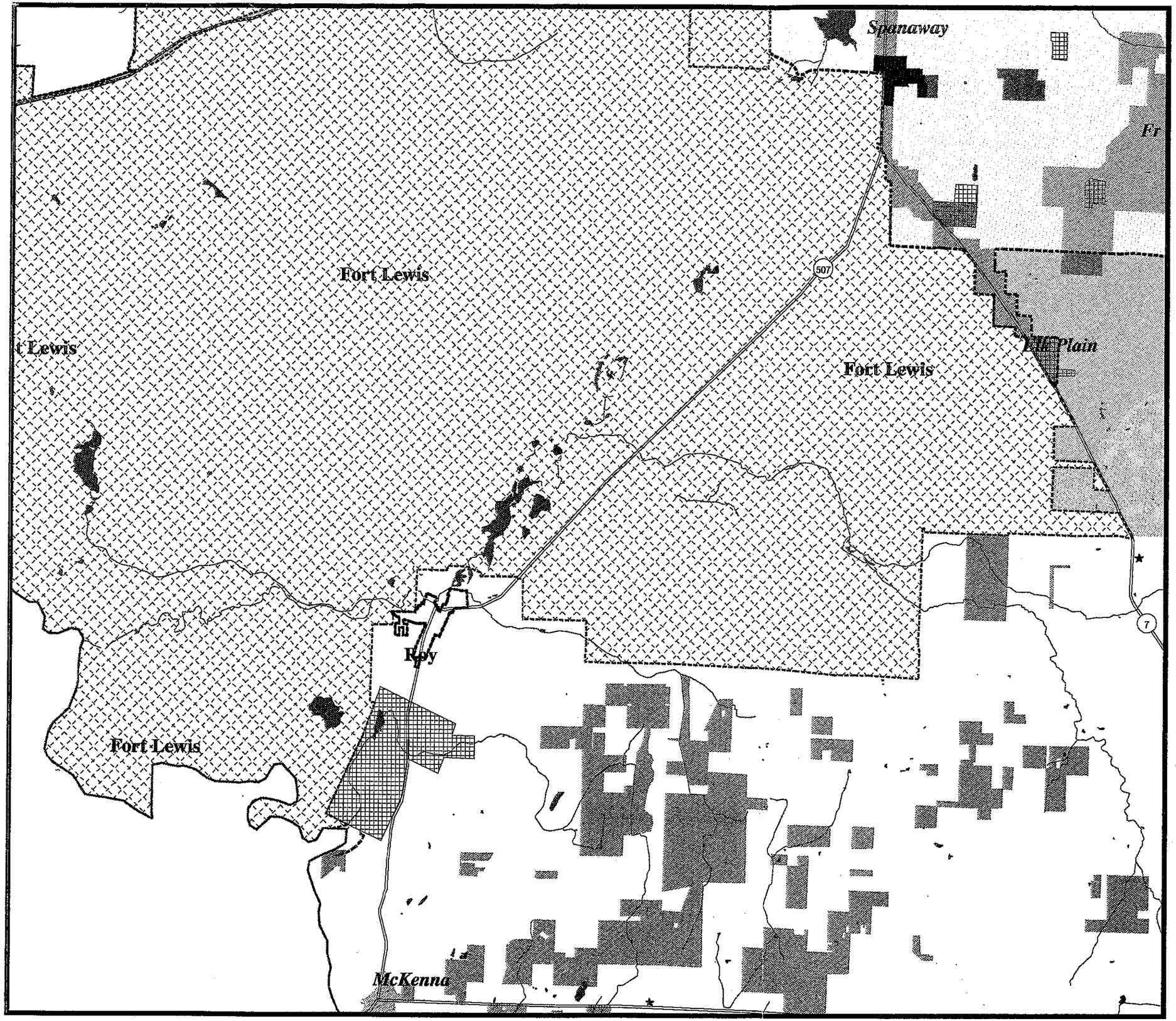
Scale: 1"=3 mi. April 1995

M-15

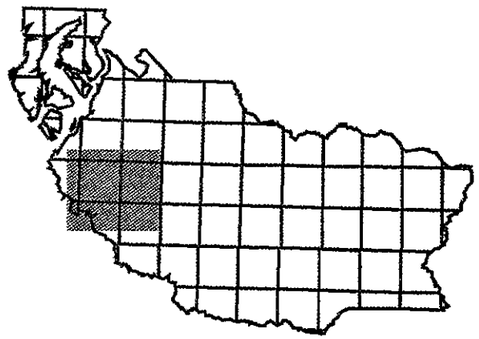
R4W R3W R2W R1W R1E R2E R3E R4E R5E

T20N T19N T18N T17N T16N T15N

OLYMPIA TUMWATER YELM RAINIER TENINO ROCHESTER GRAND MOUND BUCODA



PIERCE COUNTY, WASHINGTON



GENERALIZED PROPOSED LAND USE

- Employment Center
- Major Urban Center
- Activity Center
- Community Center
- Urban Neighborhood Center
- Mixed Use District
- High Density Residential District
- Moderate Density Single Family
- Master Planned Community
- Emp. Based Planned Community
- Ag Overlay/Employment Center
- Agricultural Overlay
- Rural Activity Center
- ★ Gateway Community
- ★ Rural Neighborhood Center
- Rural Separator
- Rural 5
- Rural 10
- Reserve 5
- Reserve 10
- Rural 20
- Designated Forest Land
- Agriculture
- Mineral Resource Overlay
- Comprehensive Urban Growth Bdry.
- Urban Growth Boundary

As Amended 3/26/96 - Ord. #96-17S2
Effective May 1, 1996

Scale = 1:72000

Pierce County
Geographic Information System

Department of Planning and Land Services

Revision Date: July 31, 1996

Plot Date: January 28, 1997

SR 507

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